

FIG. 1

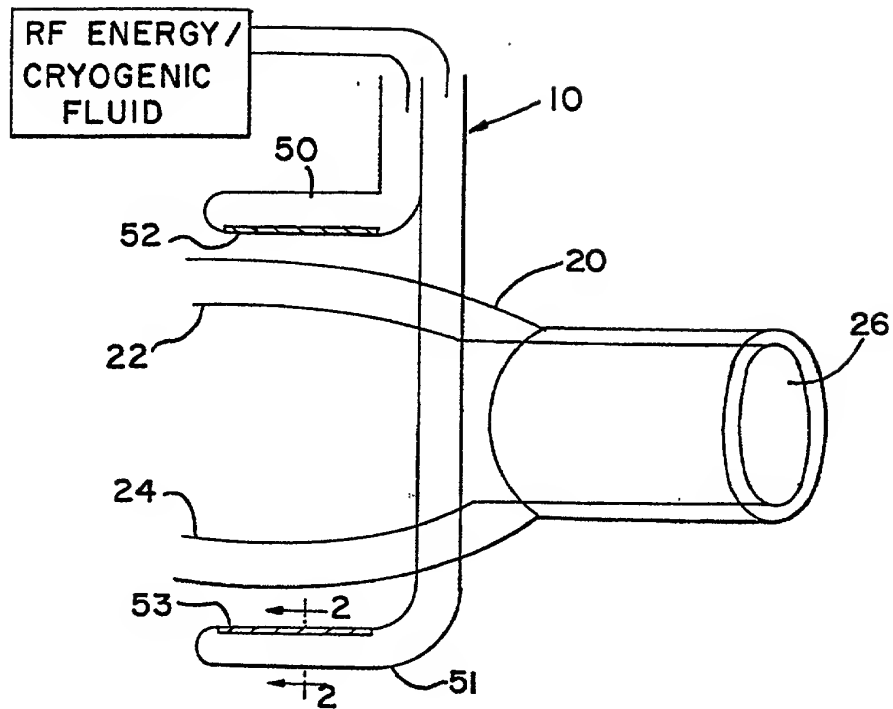


FIG. 2

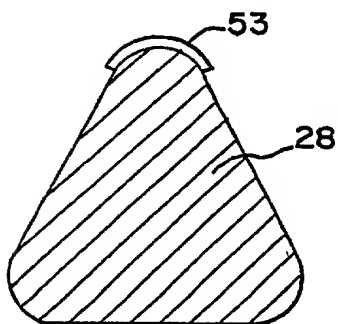


FIG. 3

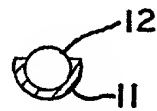


FIG. 4

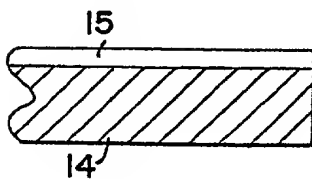


FIG. 5

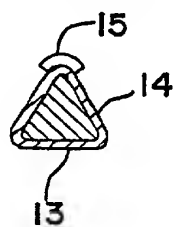


FIG. 6

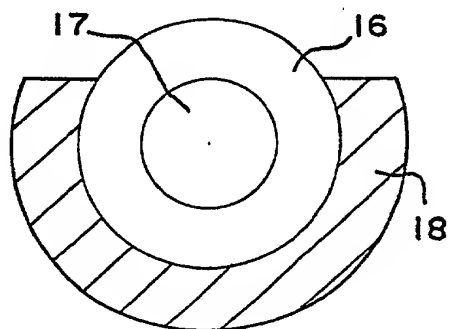


FIG.7

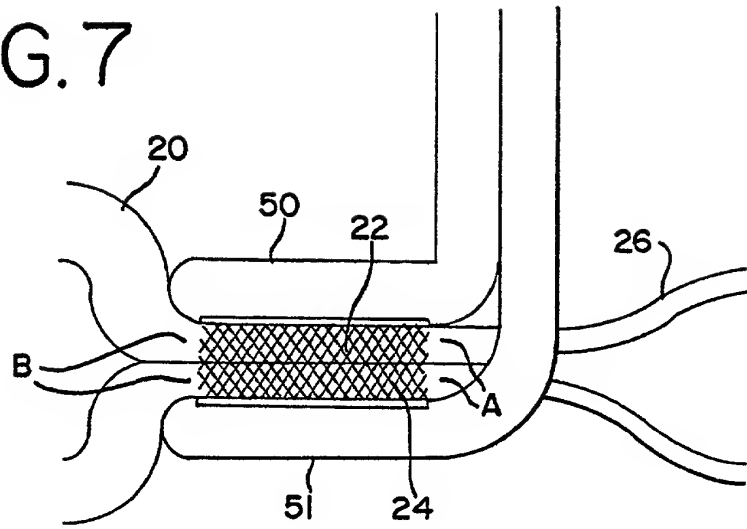


FIG.8

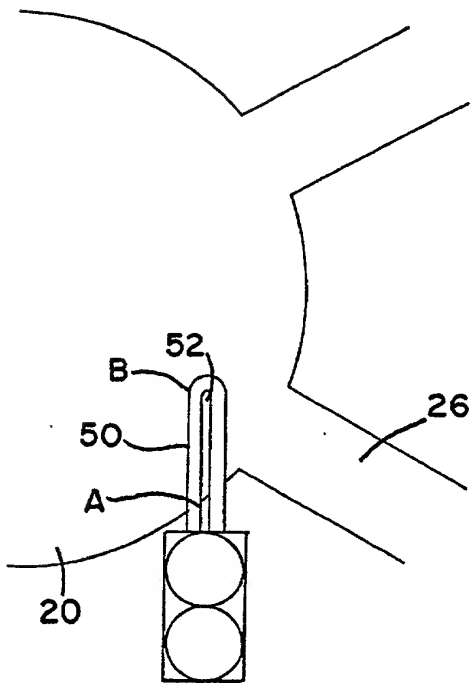


FIG.9

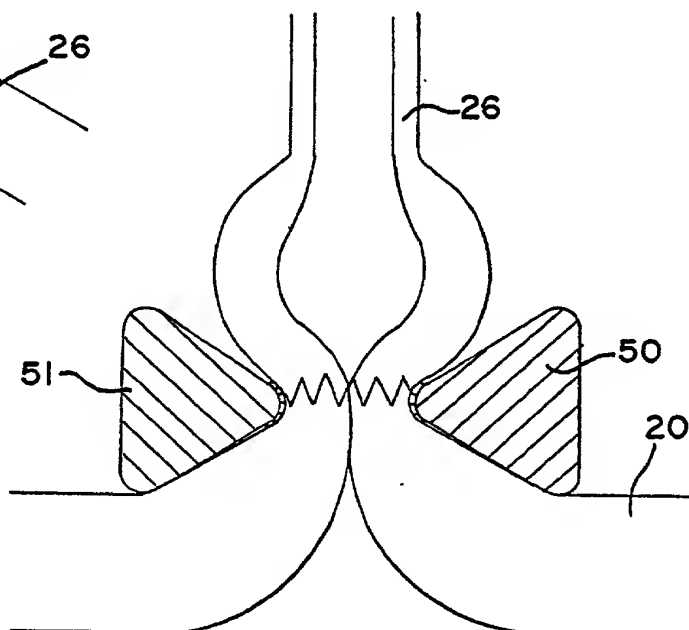


FIG.10

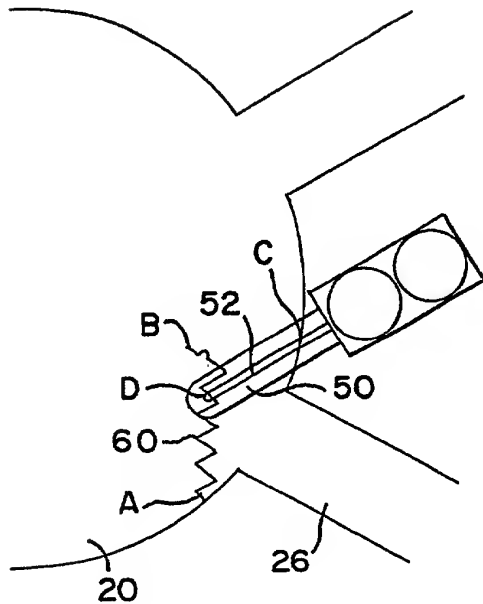


FIG.11

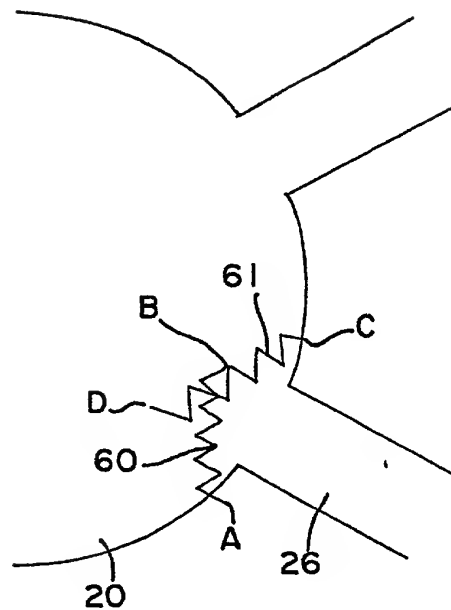


FIG.12

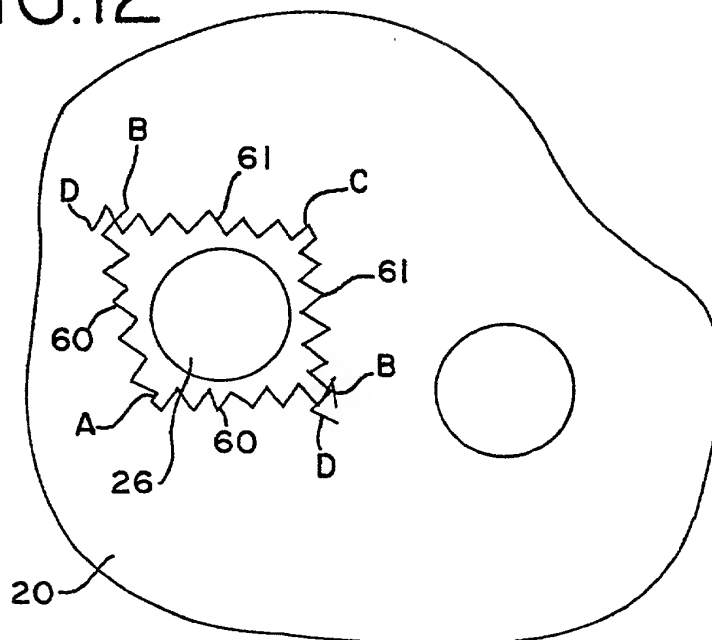


FIG. 13

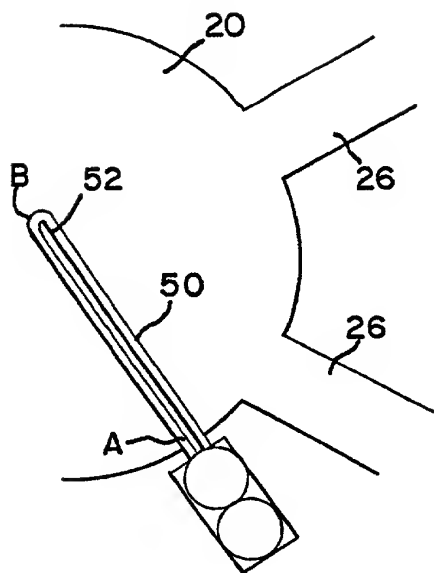


FIG. 14

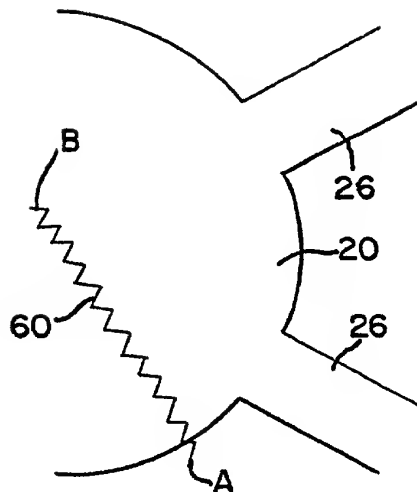


FIG. 16

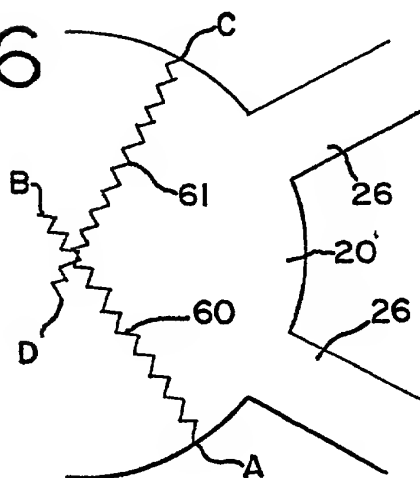


FIG. 15

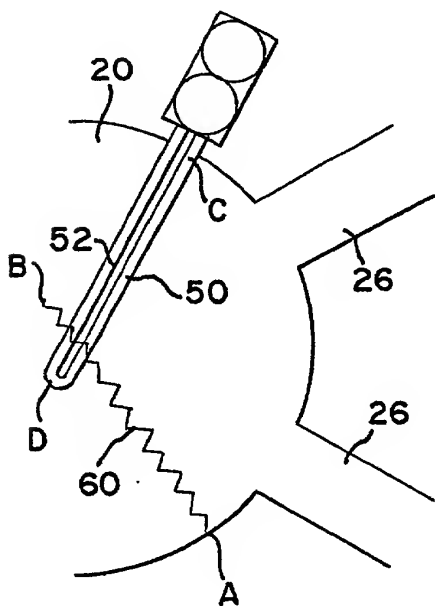


FIG. 17

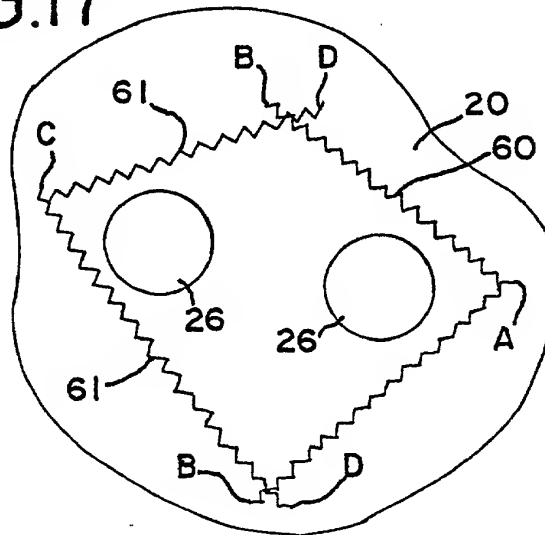


FIG. 18

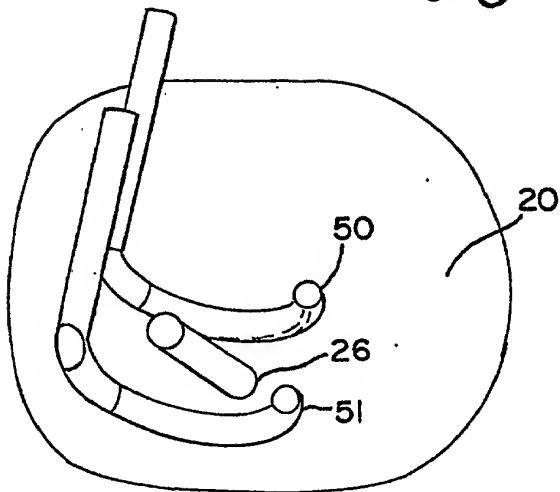


FIG. 19

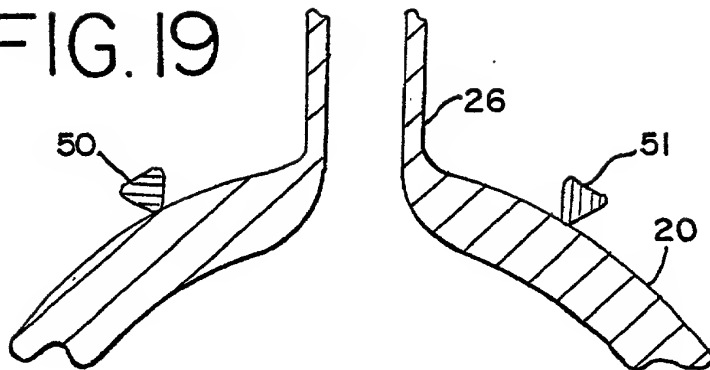


FIG. 21

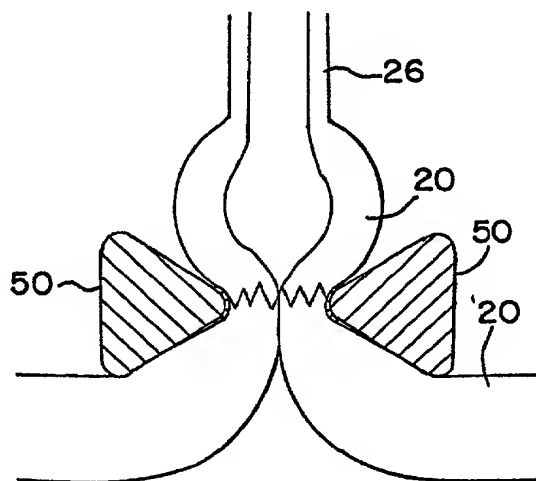


FIG. 20

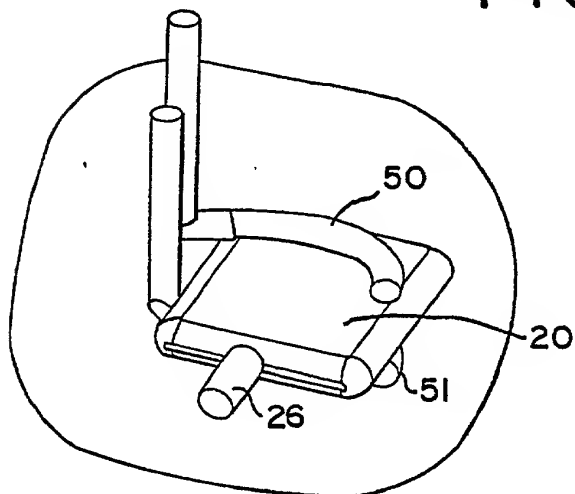


FIG. 22

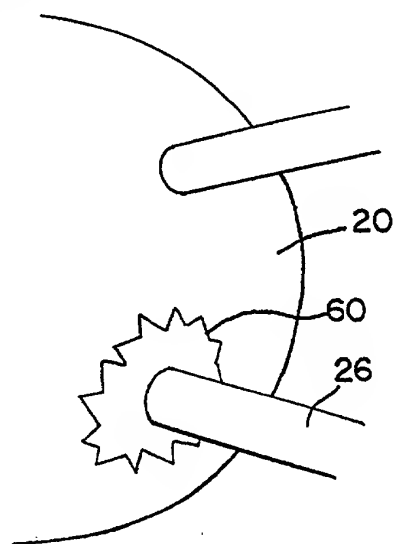


FIG.24

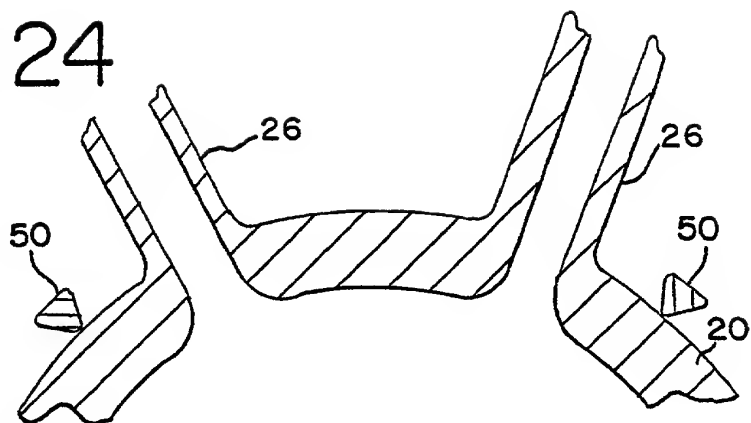


FIG.23

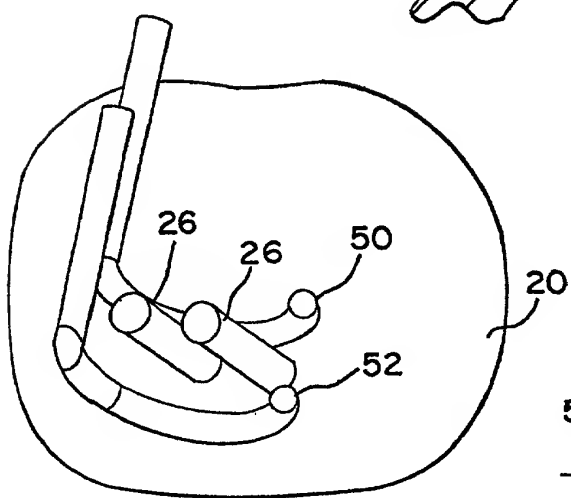


FIG.26

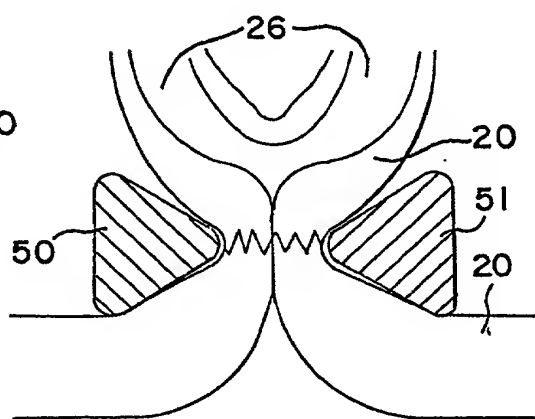


FIG.25

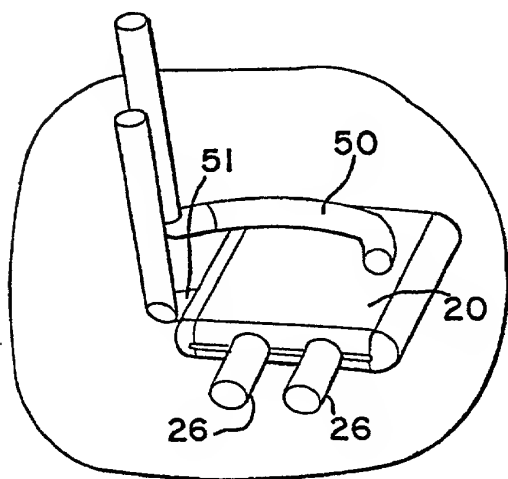
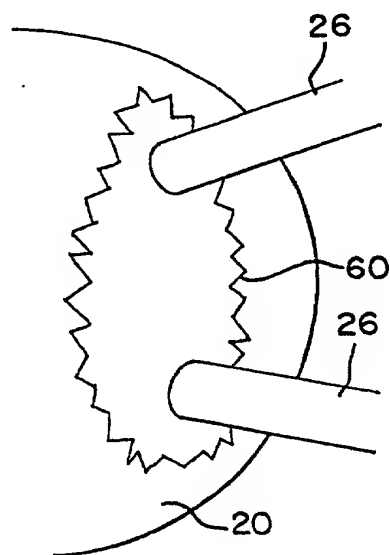


FIG.27



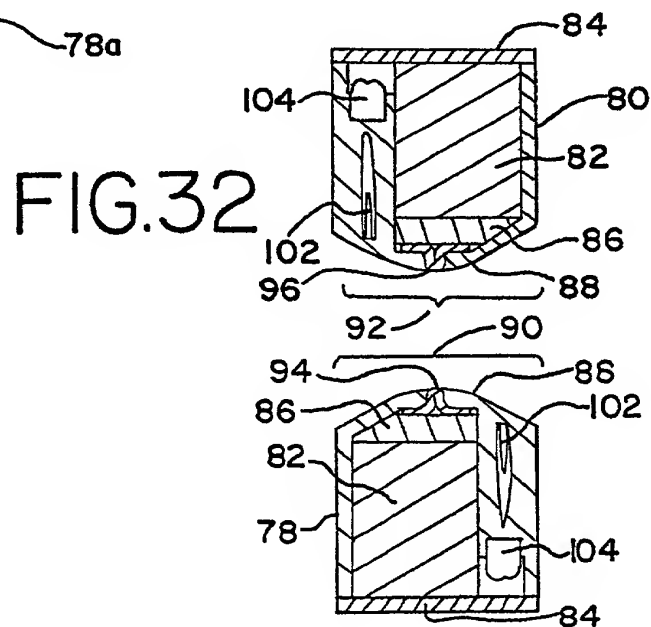
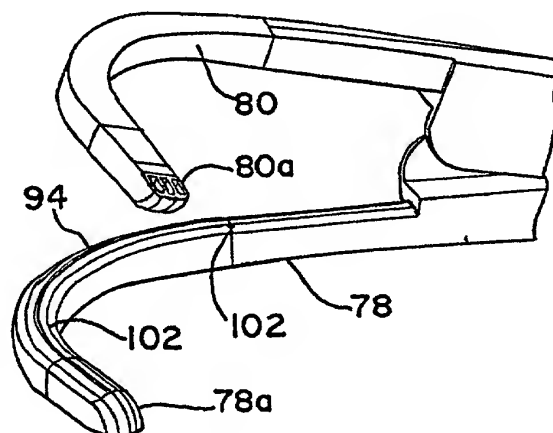
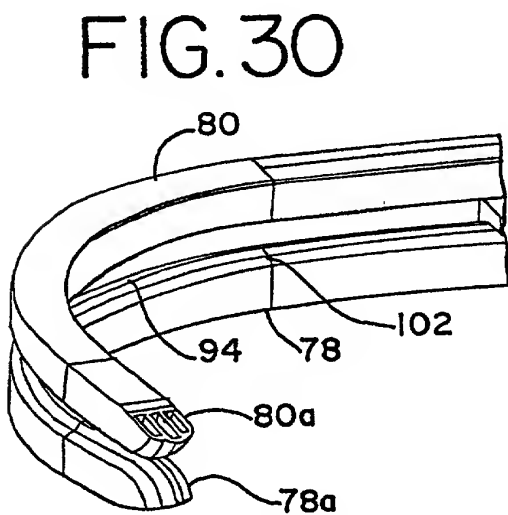
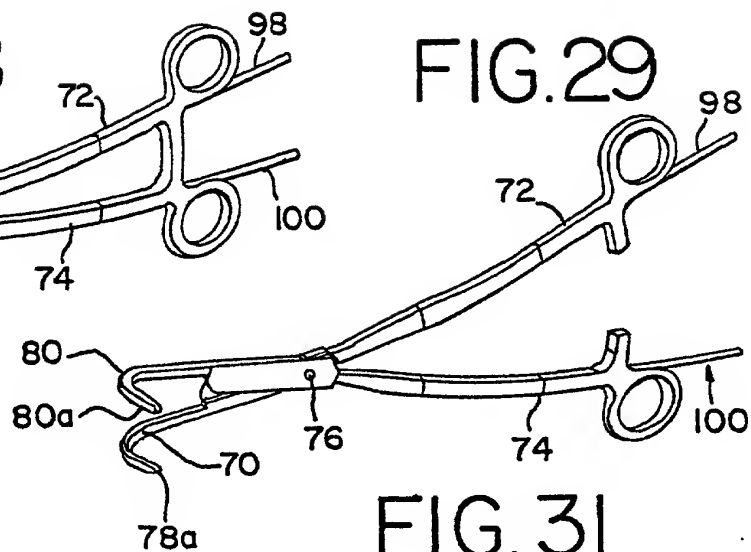
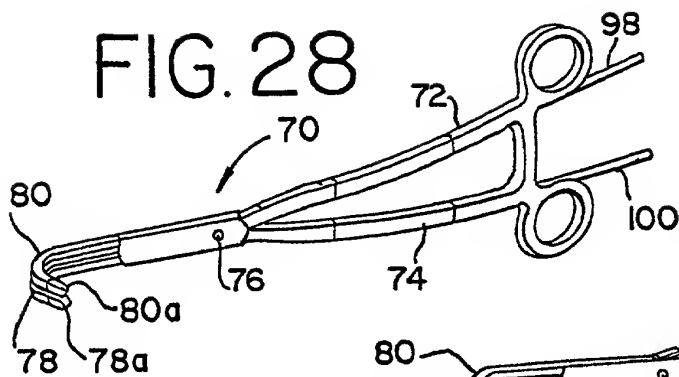


FIG. 33

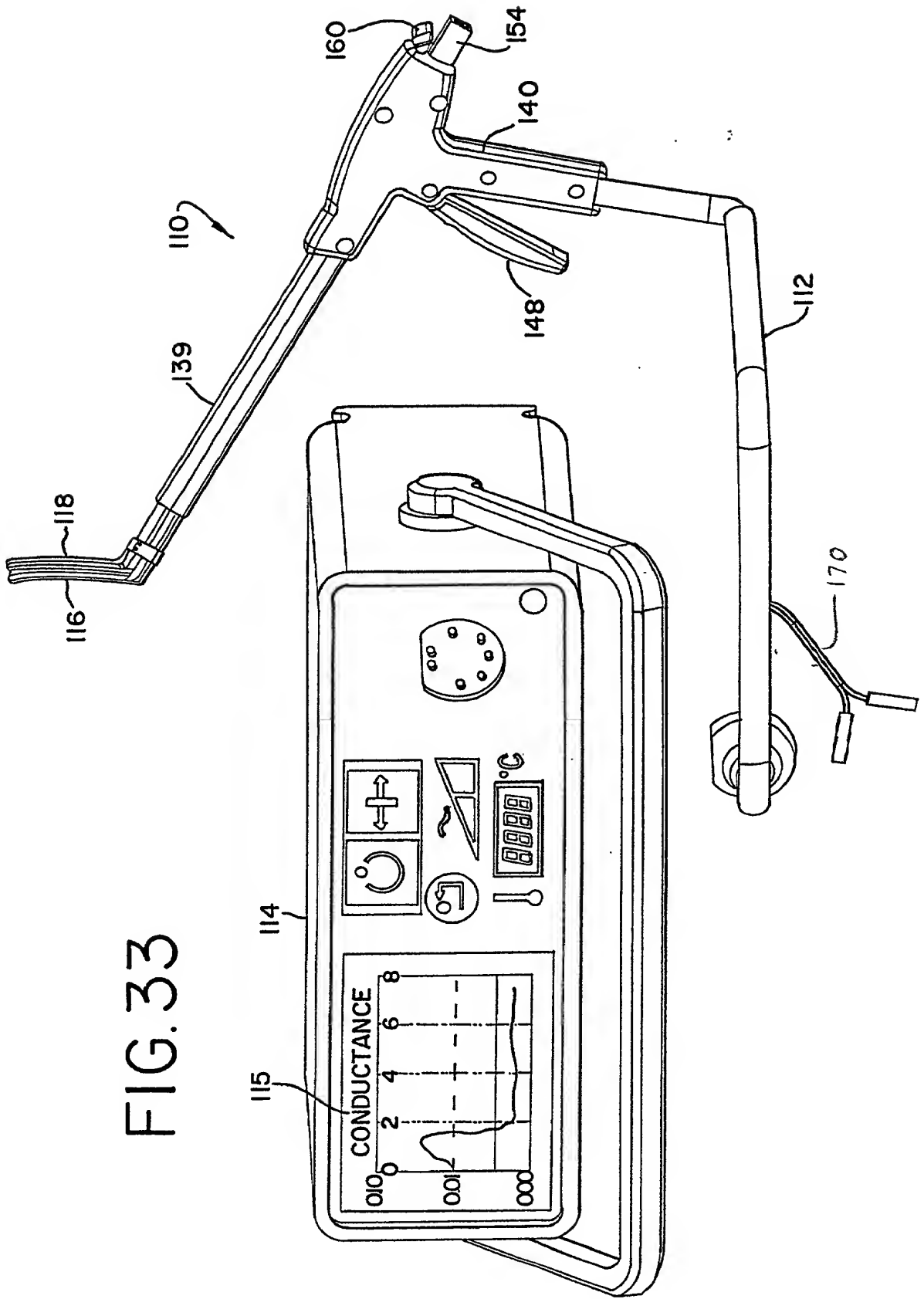


FIG. 34

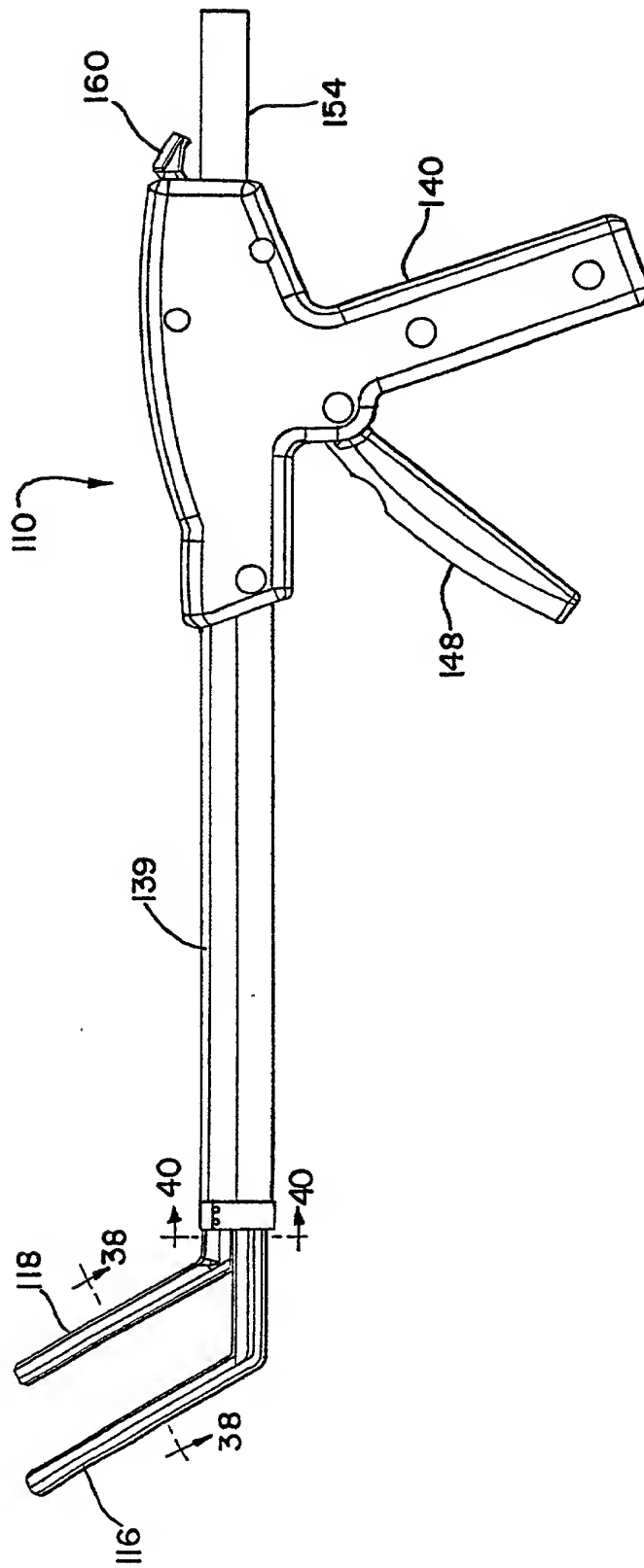
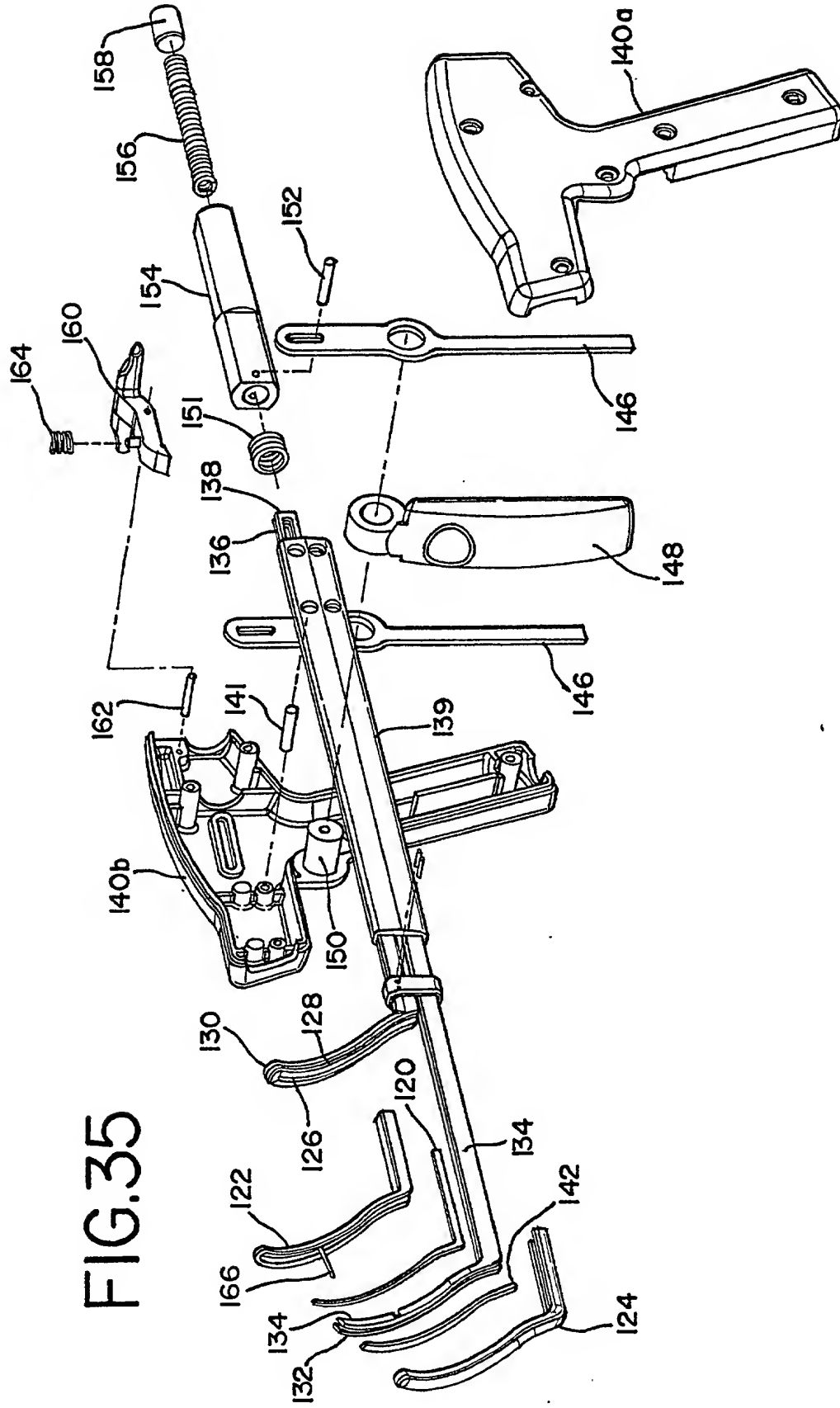


FIG. 35



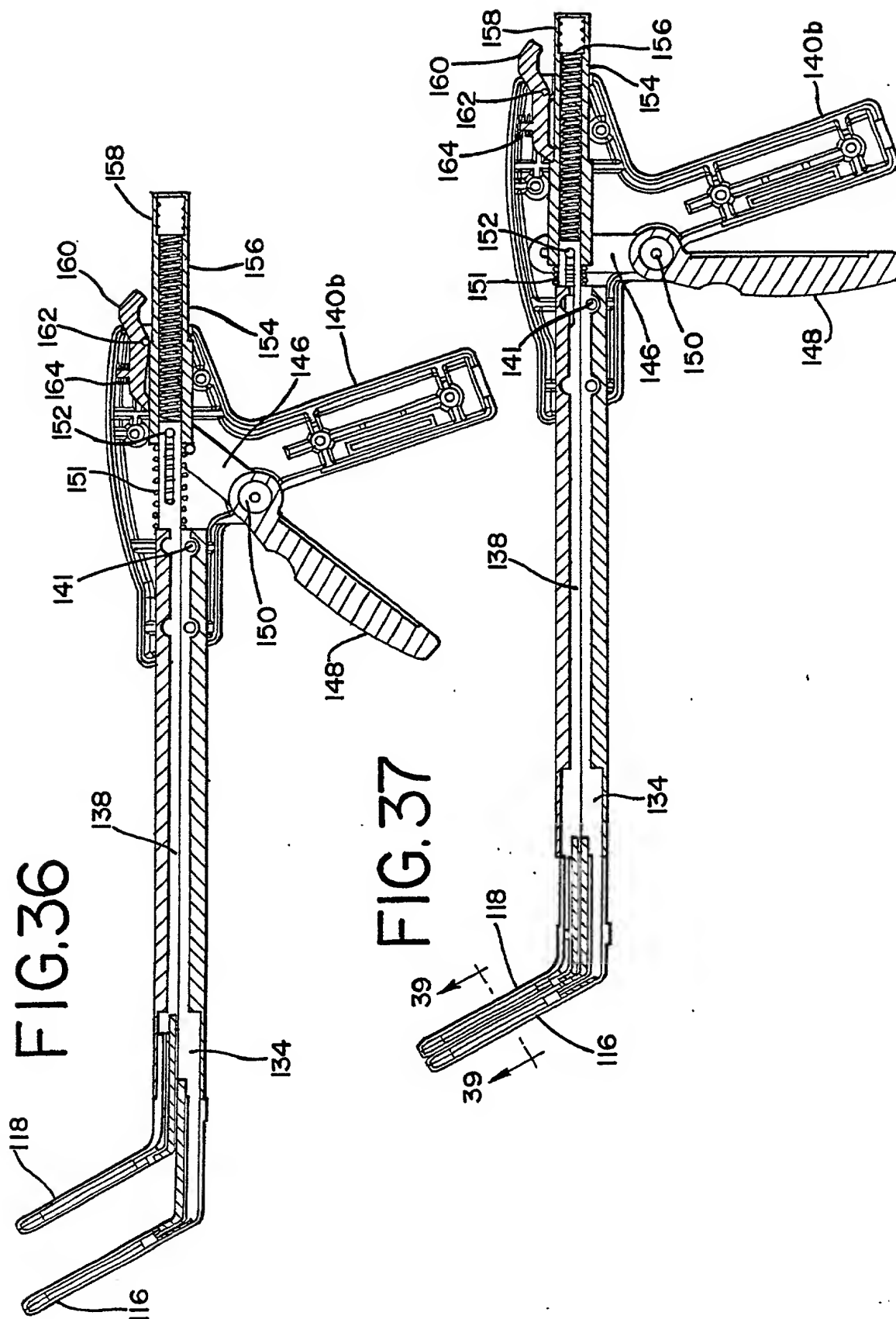


FIG.38

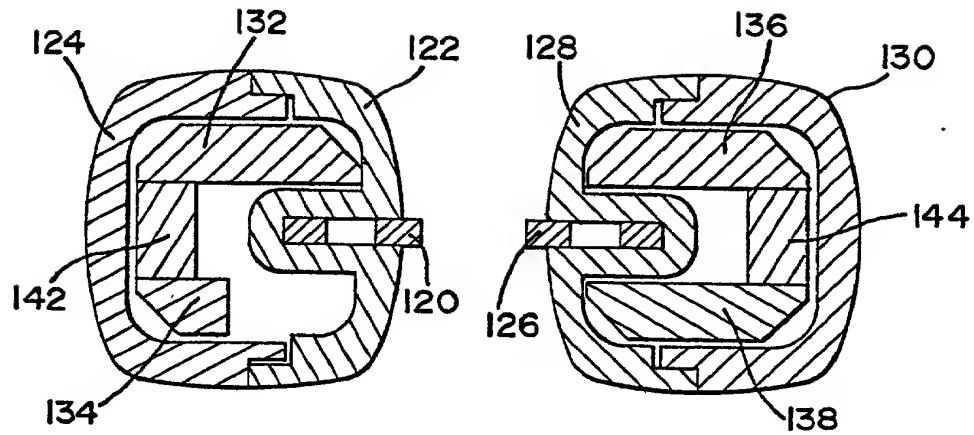


FIG.39

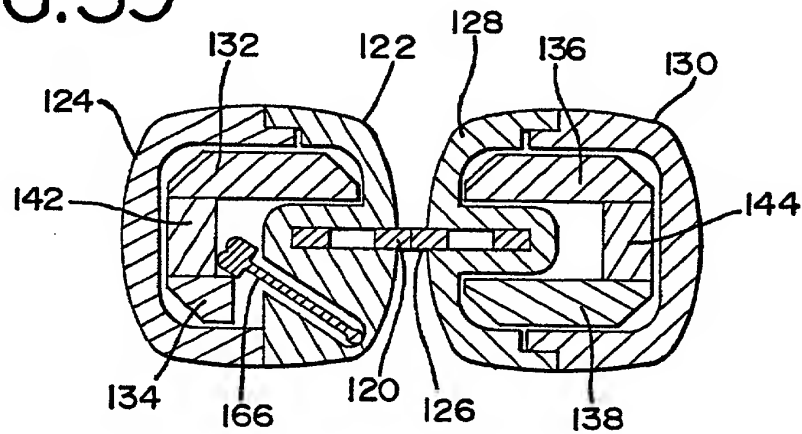


FIG.40

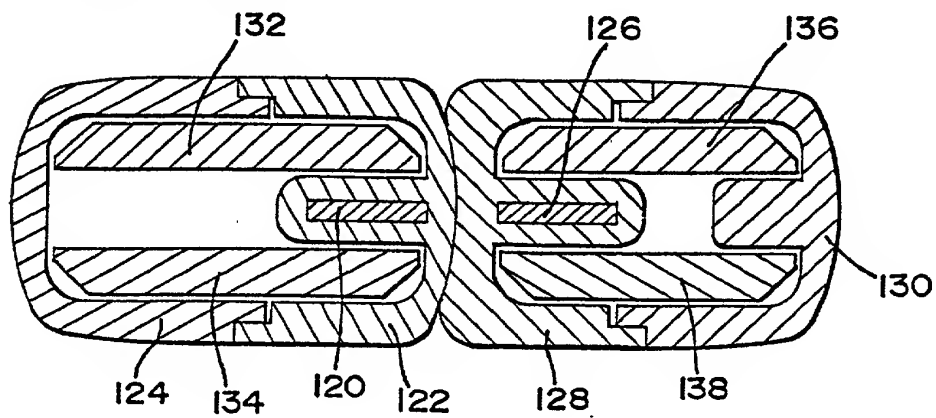


FIG.41

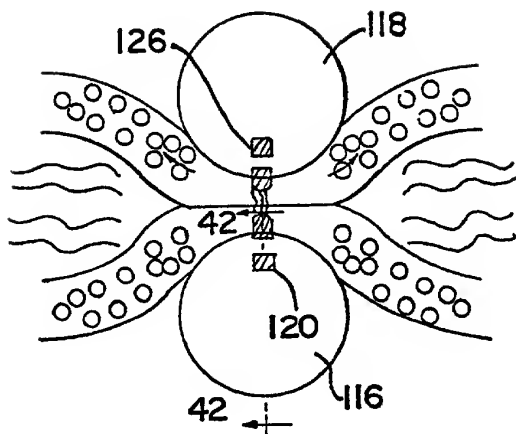


FIG.42

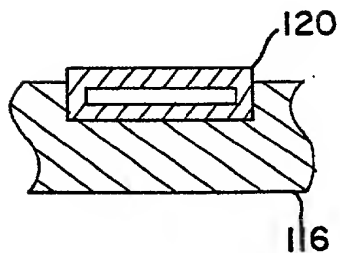


FIG.43

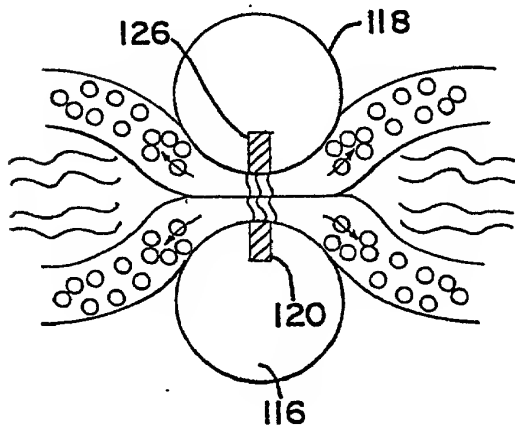


FIG.44

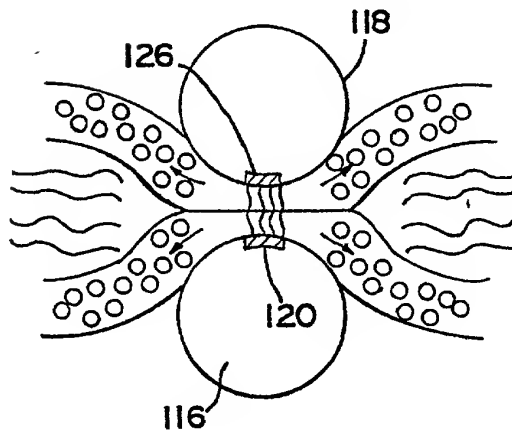


FIG.45

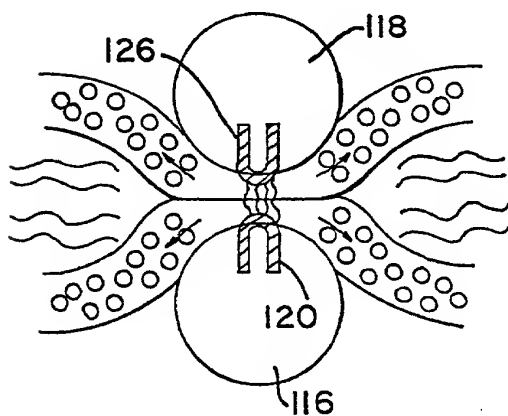


FIG.46

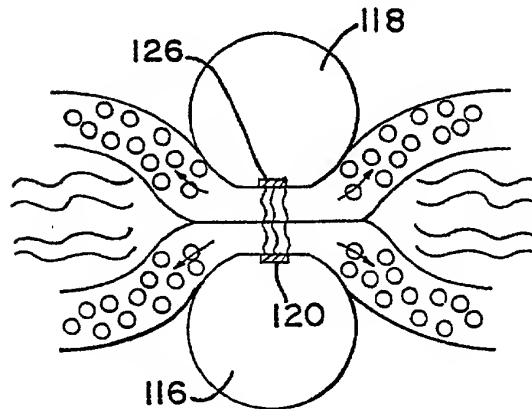


FIG.47

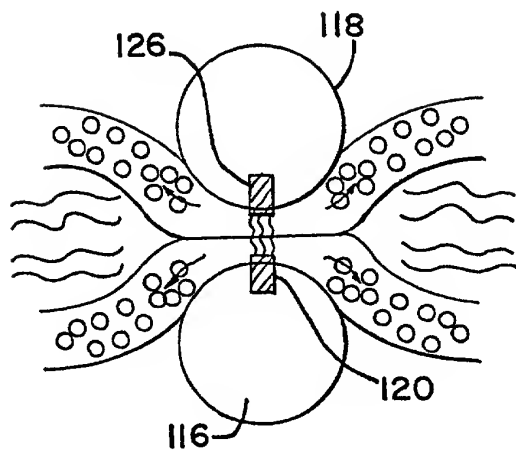


FIG.48

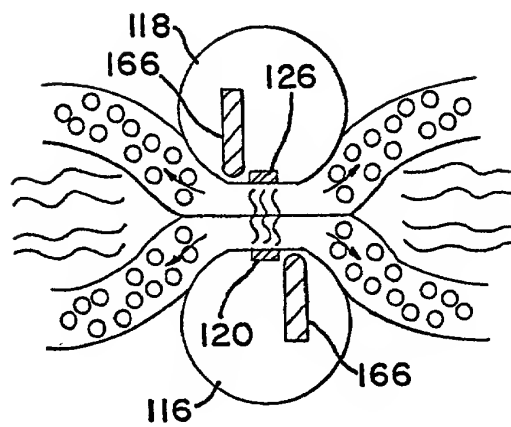


FIG.49

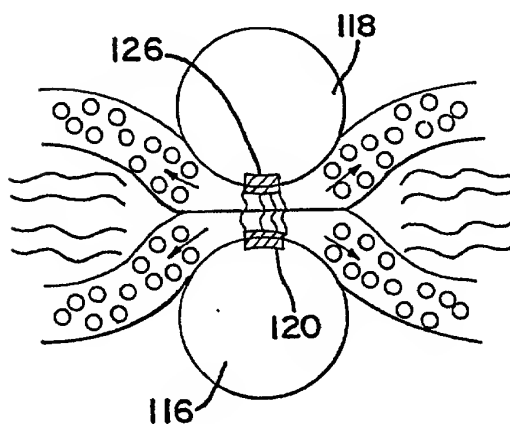


FIG.50

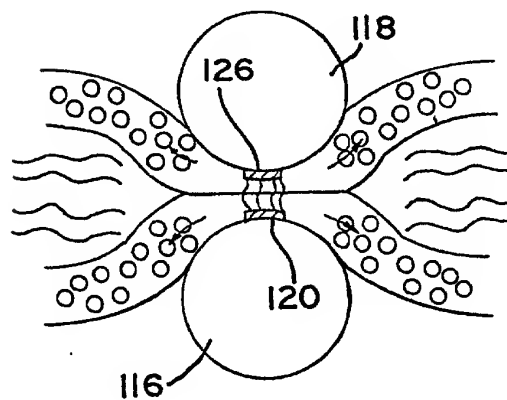


FIG.51

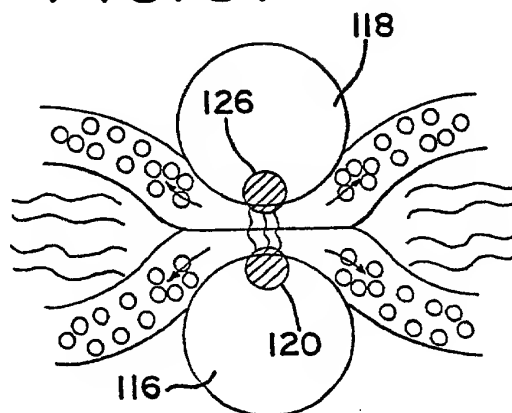


FIG.52A

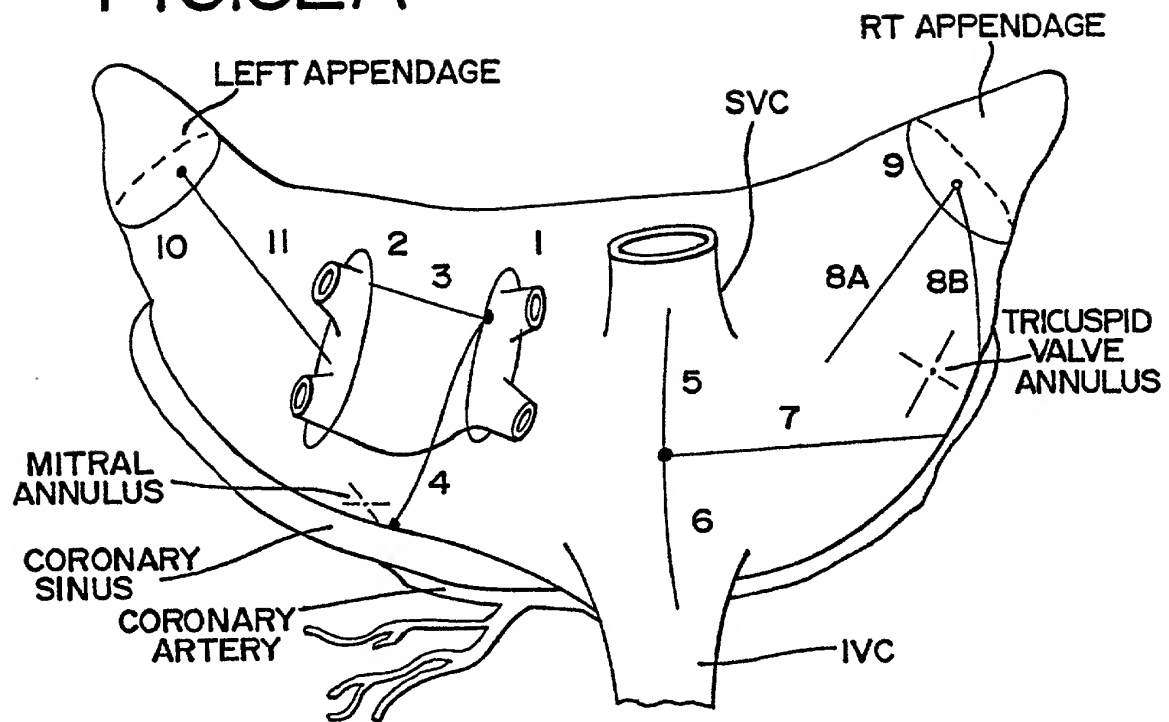


FIG.52B

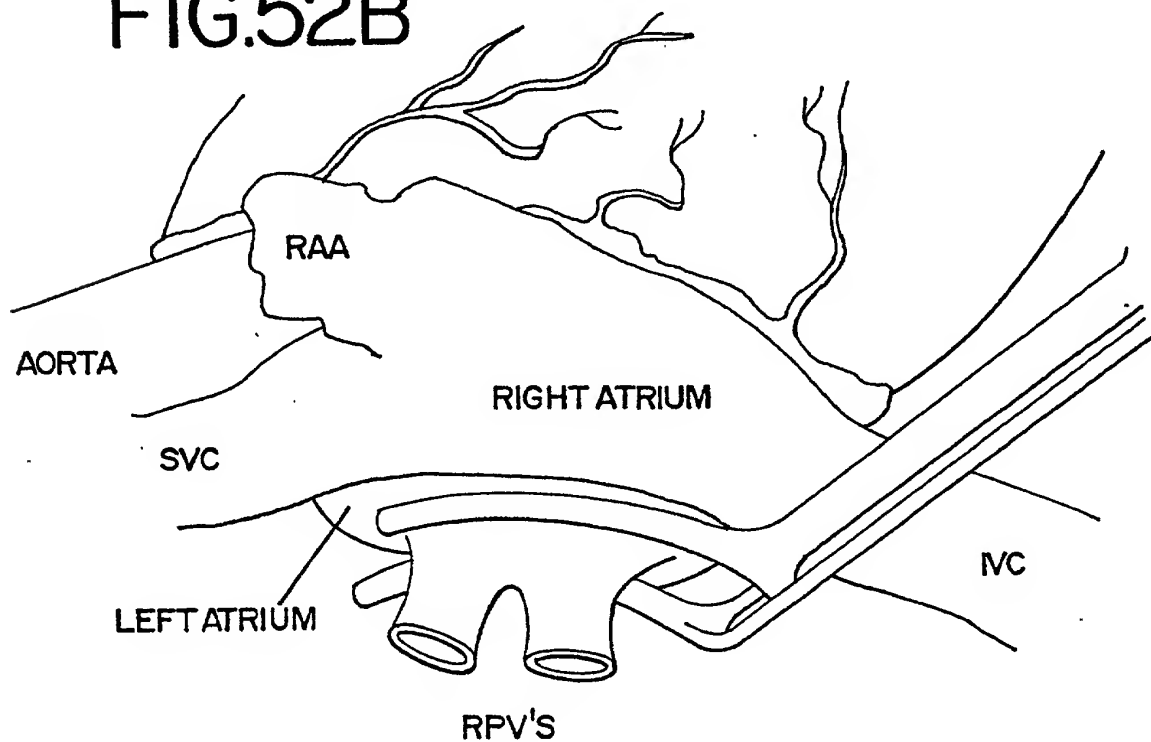


FIG.52C

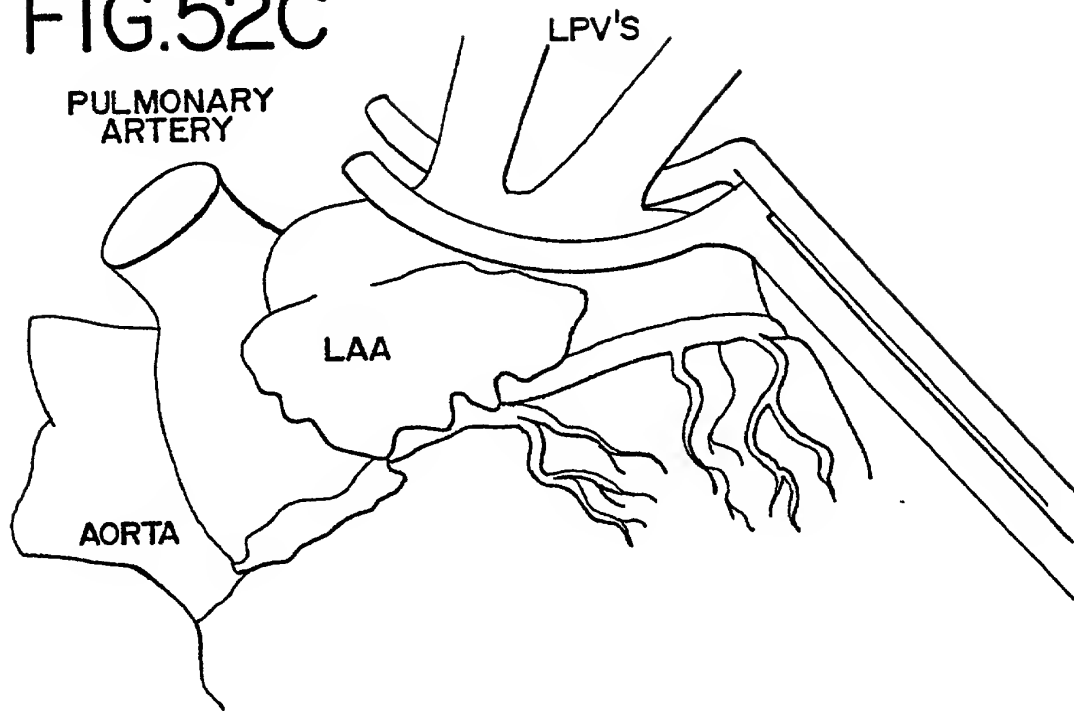


FIG.52D

HEART LIFTED

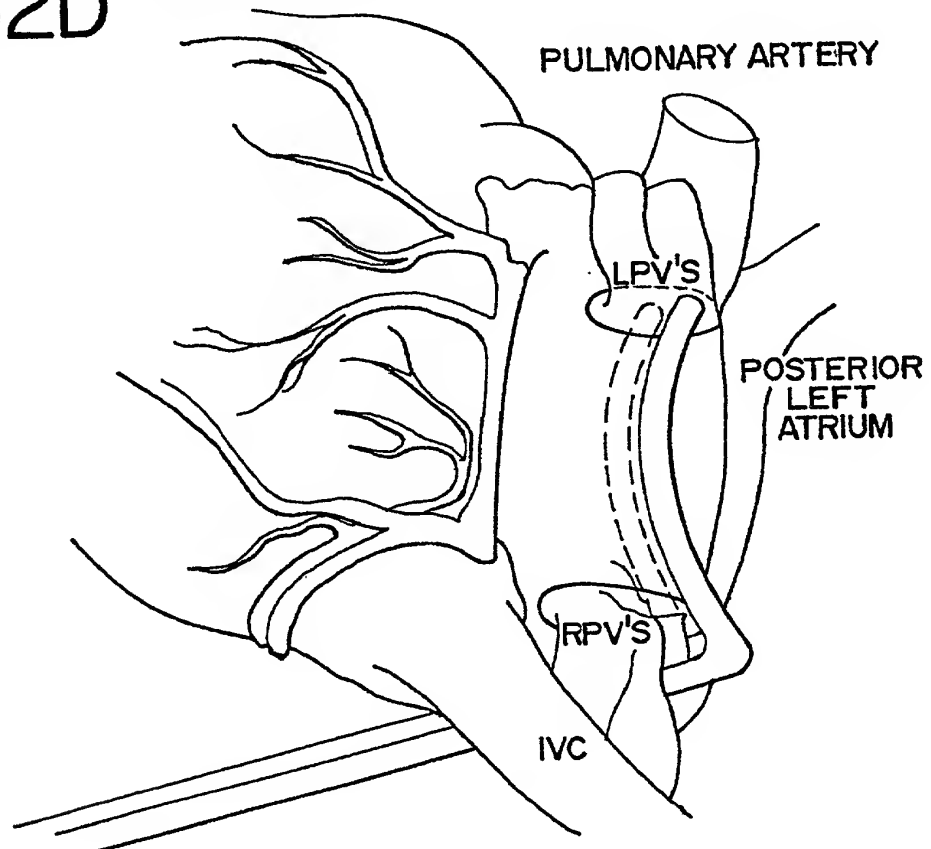


FIG.52E

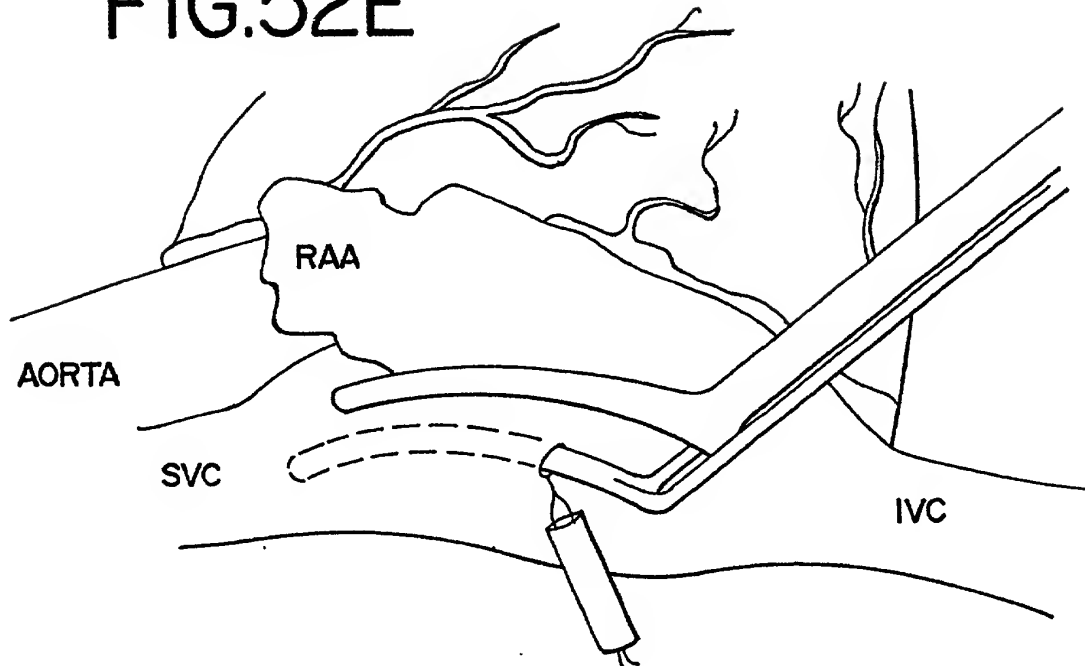


FIG.52F

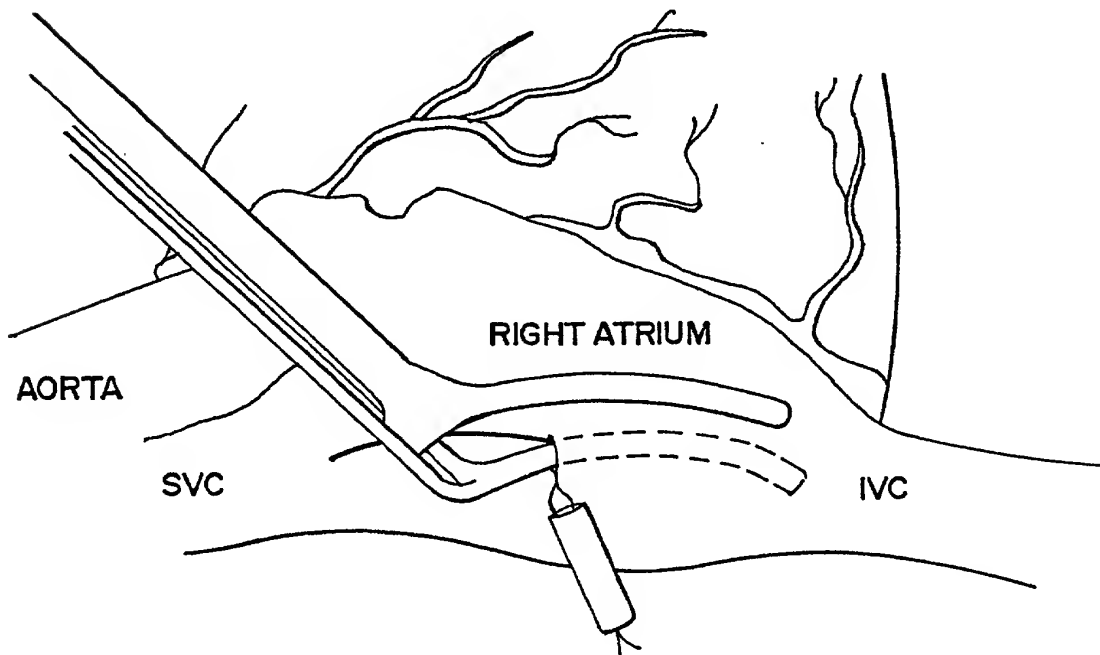


FIG.52G

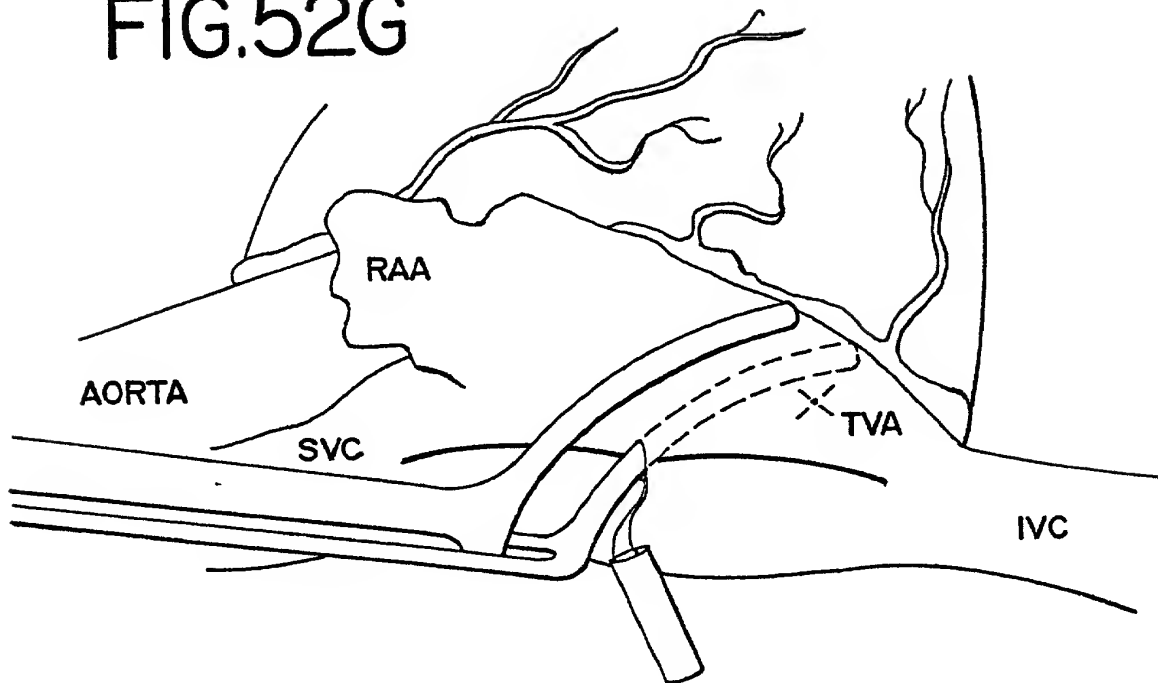


FIG.52H

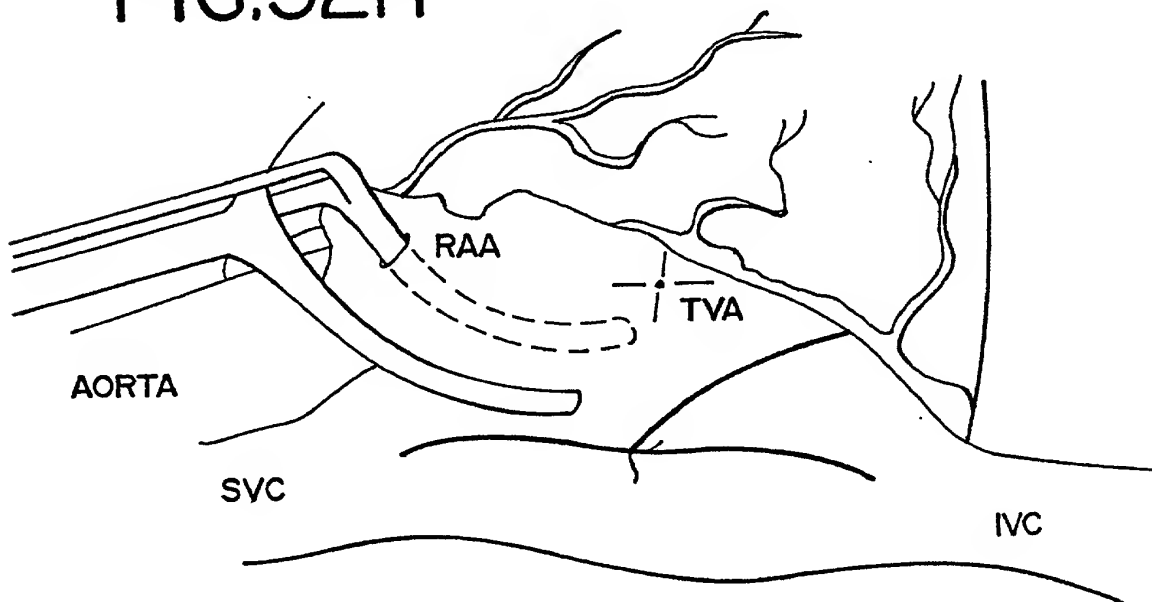


FIG.52I

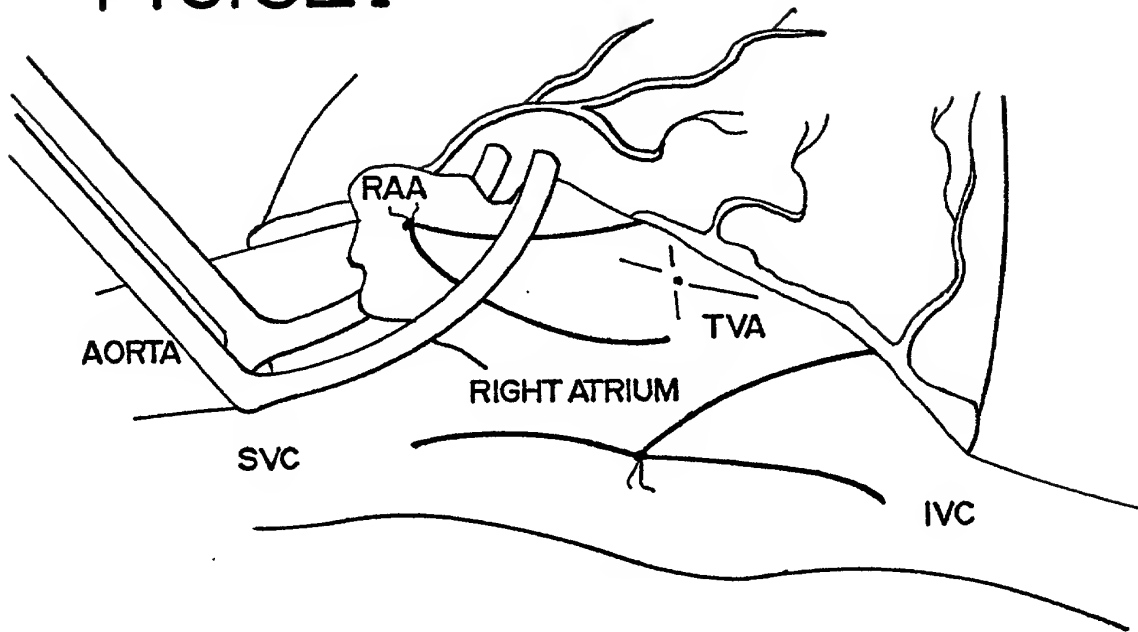
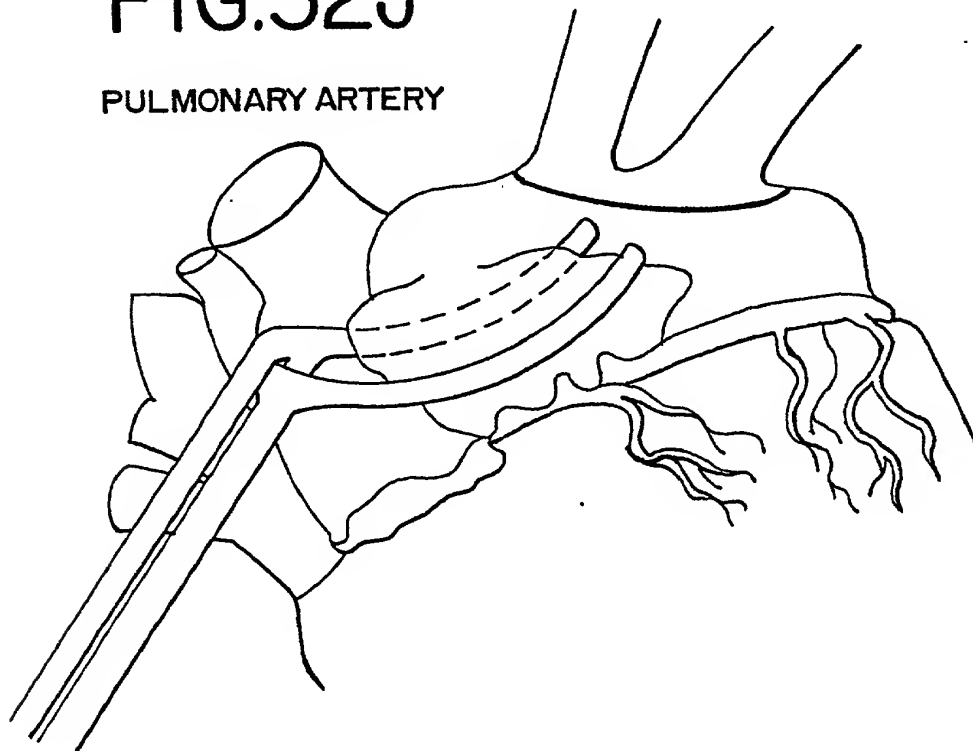


FIG.52J

PULMONARY ARTERY



[illegible]

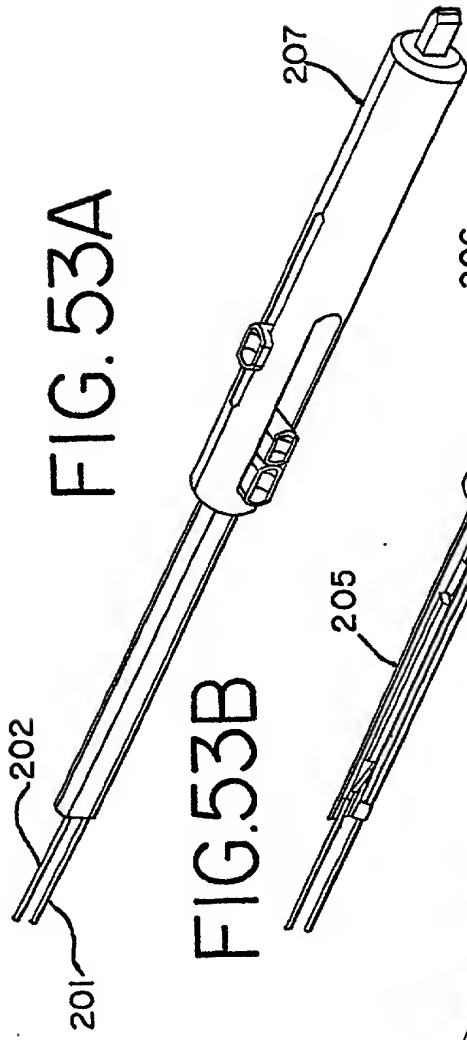


FIG. 53B

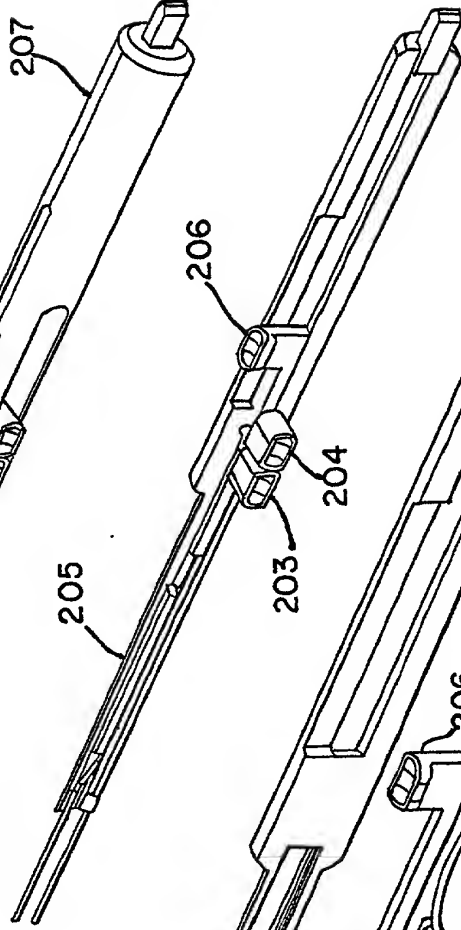


FIG. 54

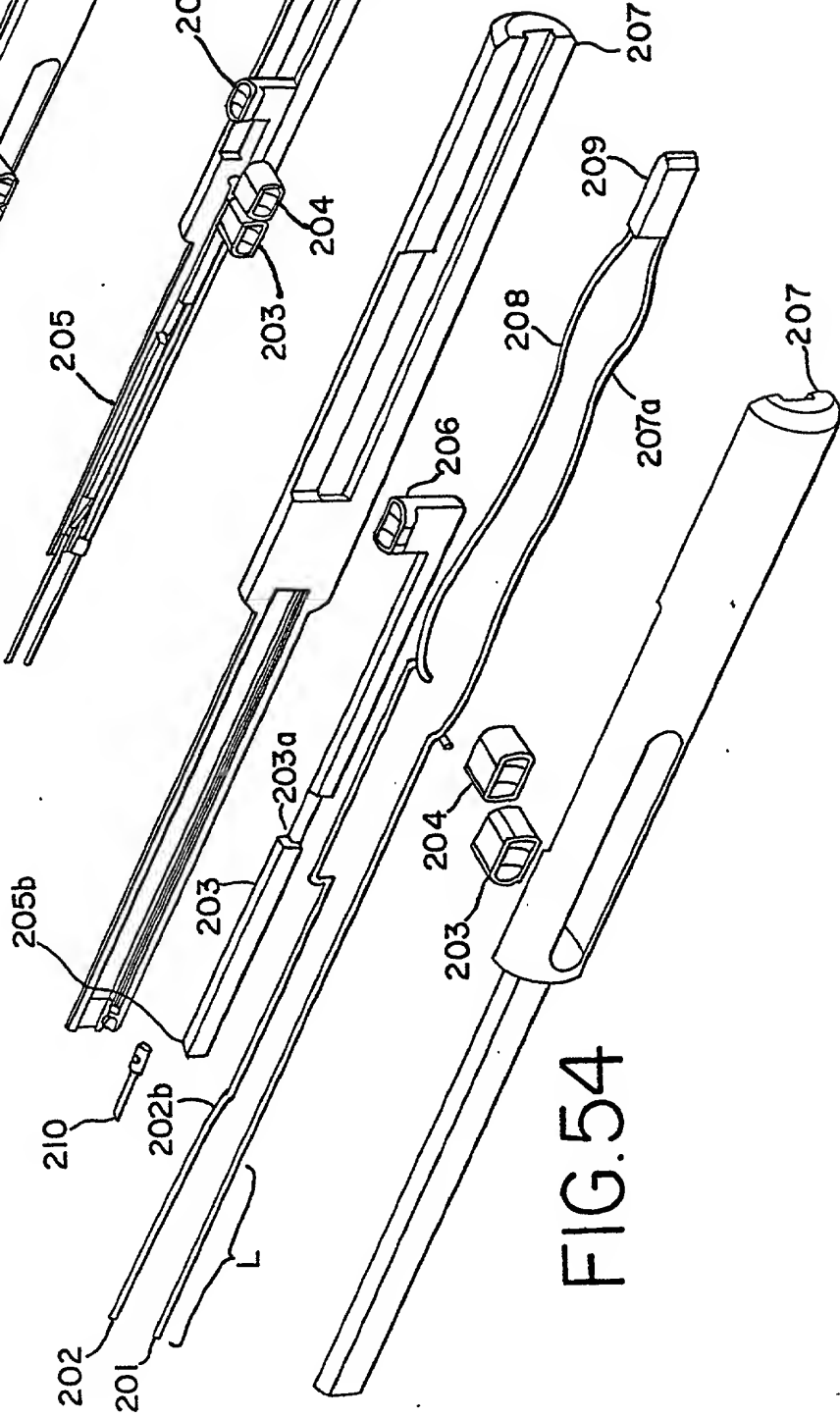


FIG. 55

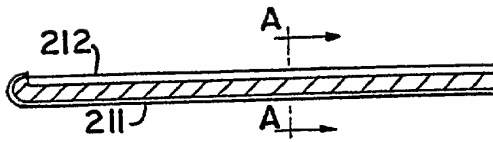


FIG. 56

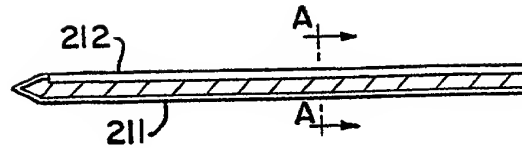


FIG. 57

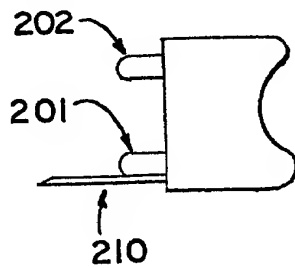


FIG. 58A

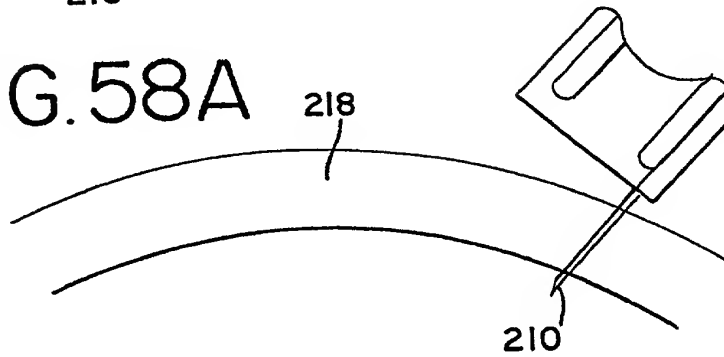


FIG. 58B

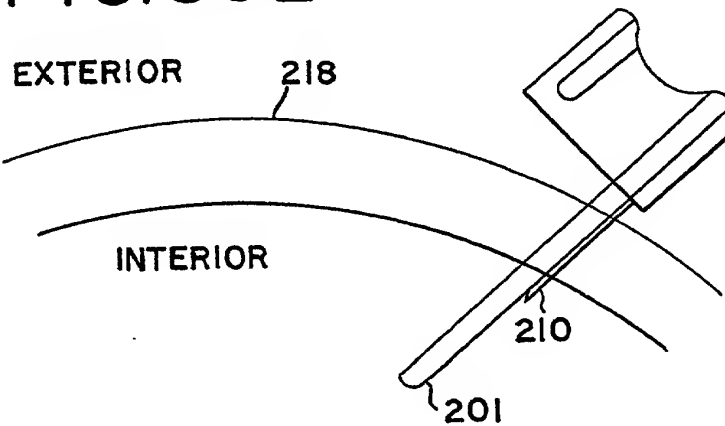


FIG. 58C

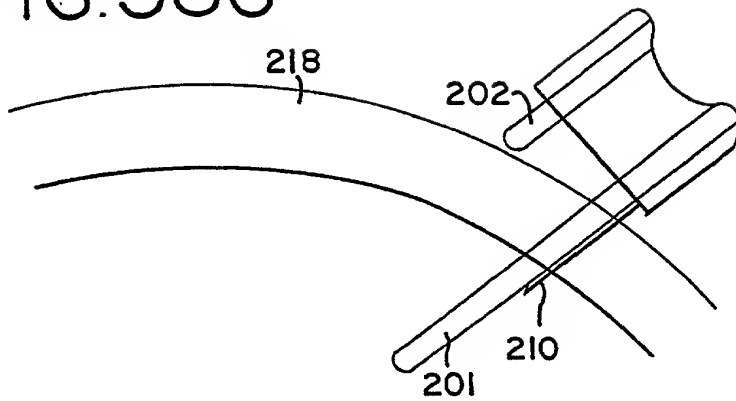


FIG. 58D

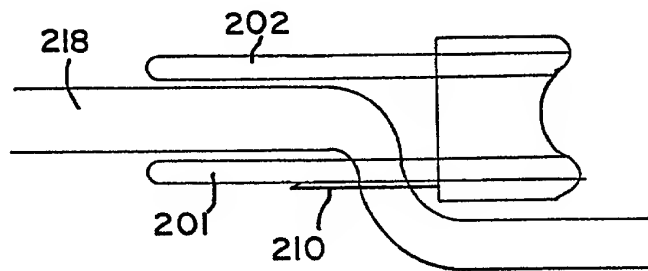


FIG. 58E

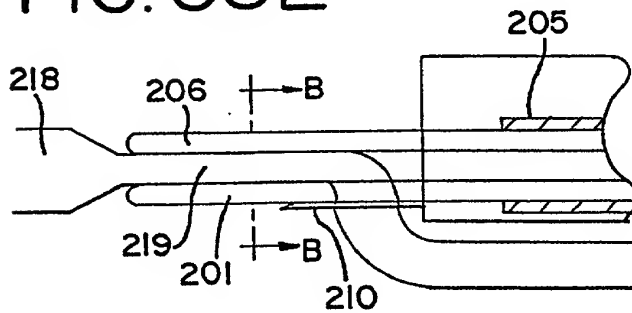


FIG. 58F

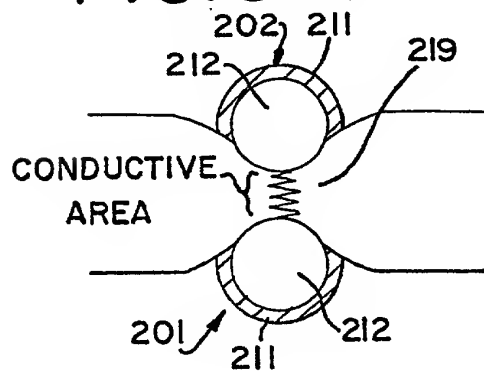


FIG. 58G

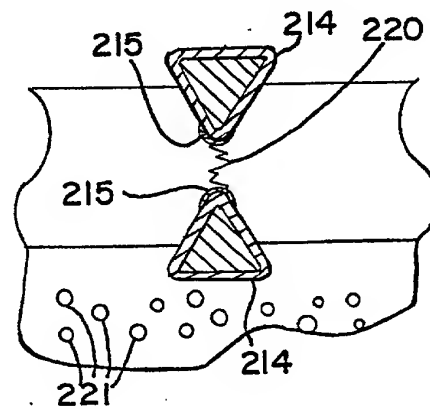


FIG. 59

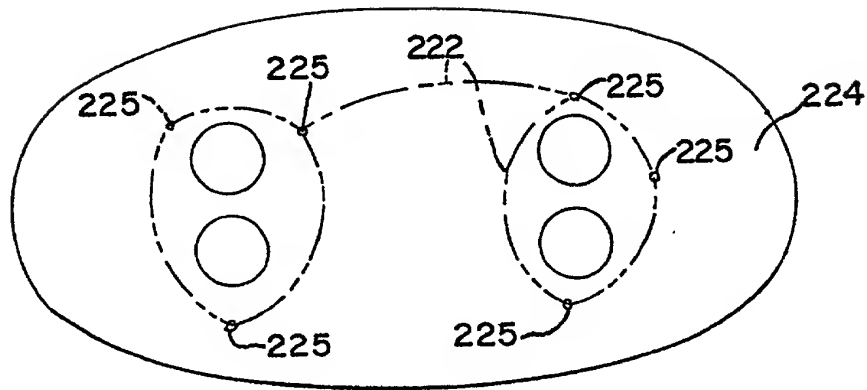


FIG. 60A

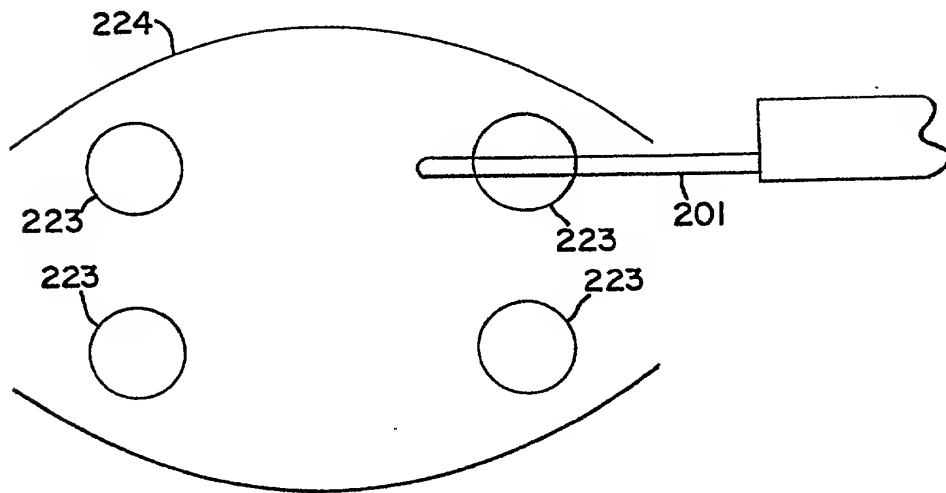


FIG. 60B

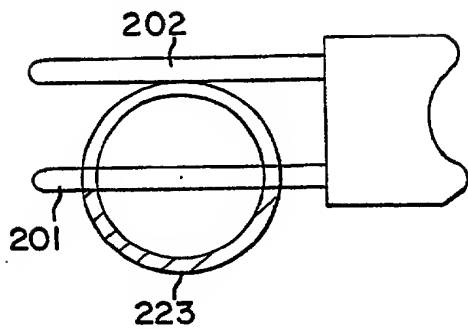


FIG. 60C

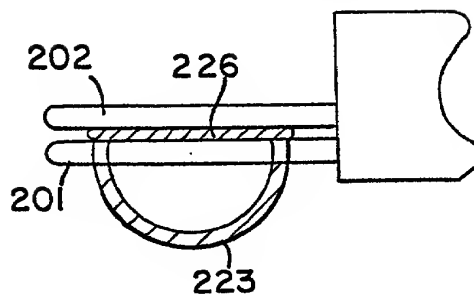


FIG. 60D

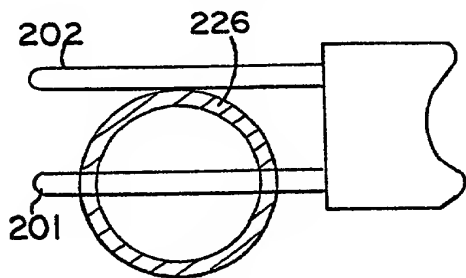


FIG. 60E

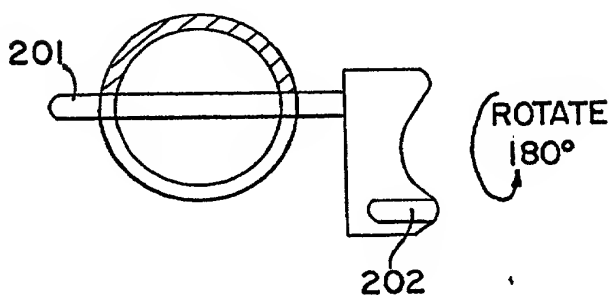


FIG. 60F

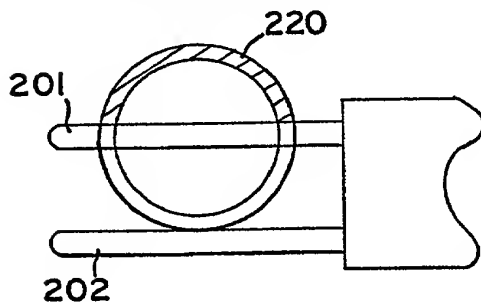


FIG. 60G

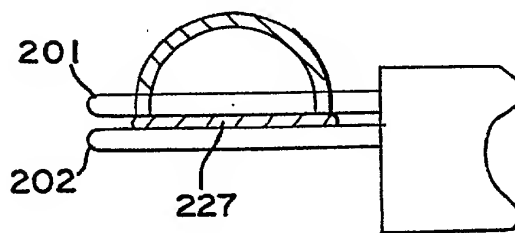


FIG. 60H

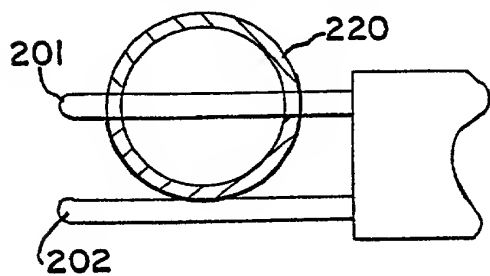
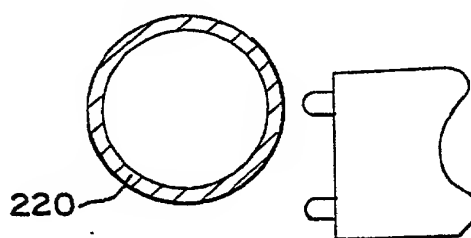


FIG. 60I



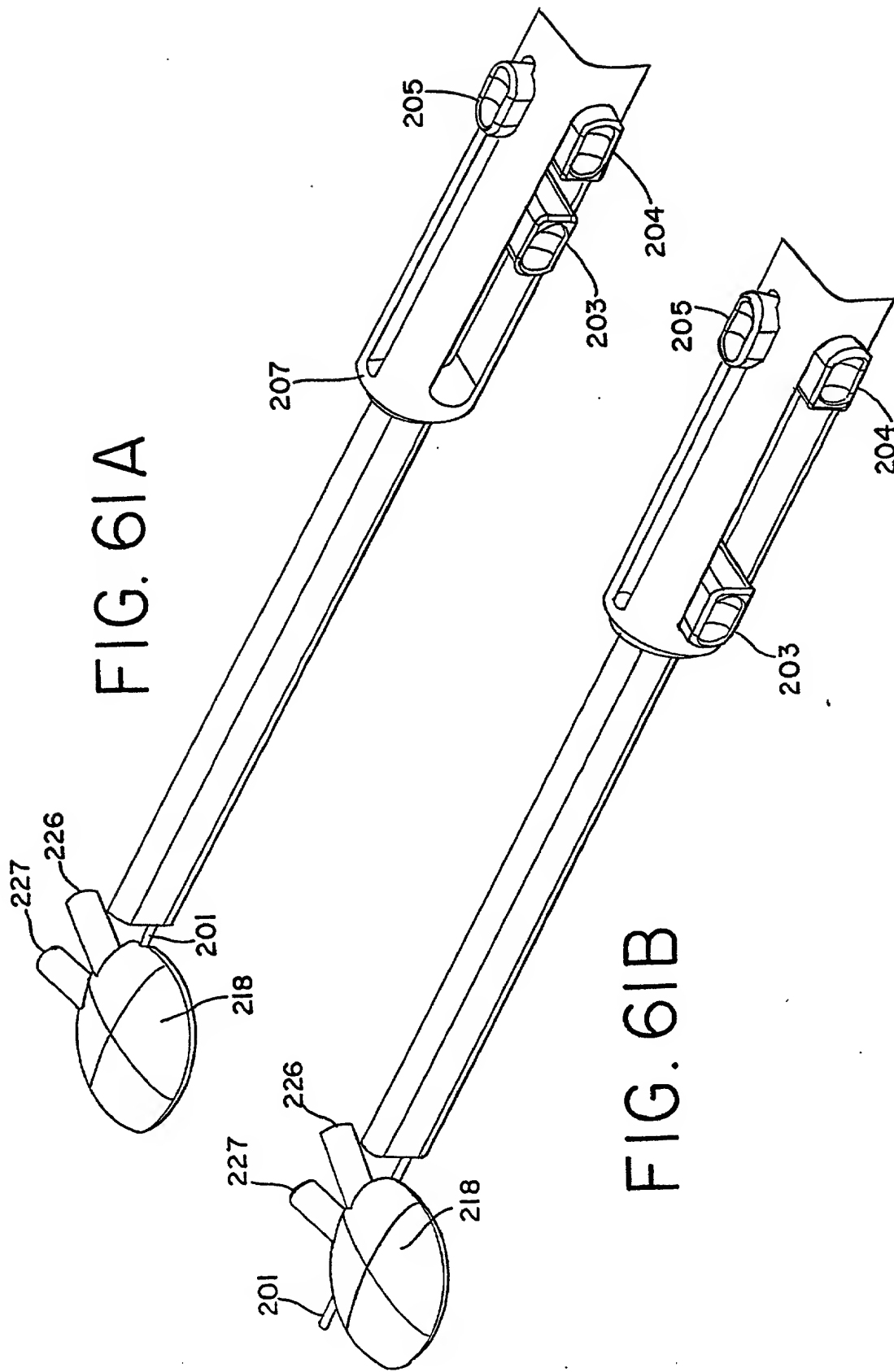
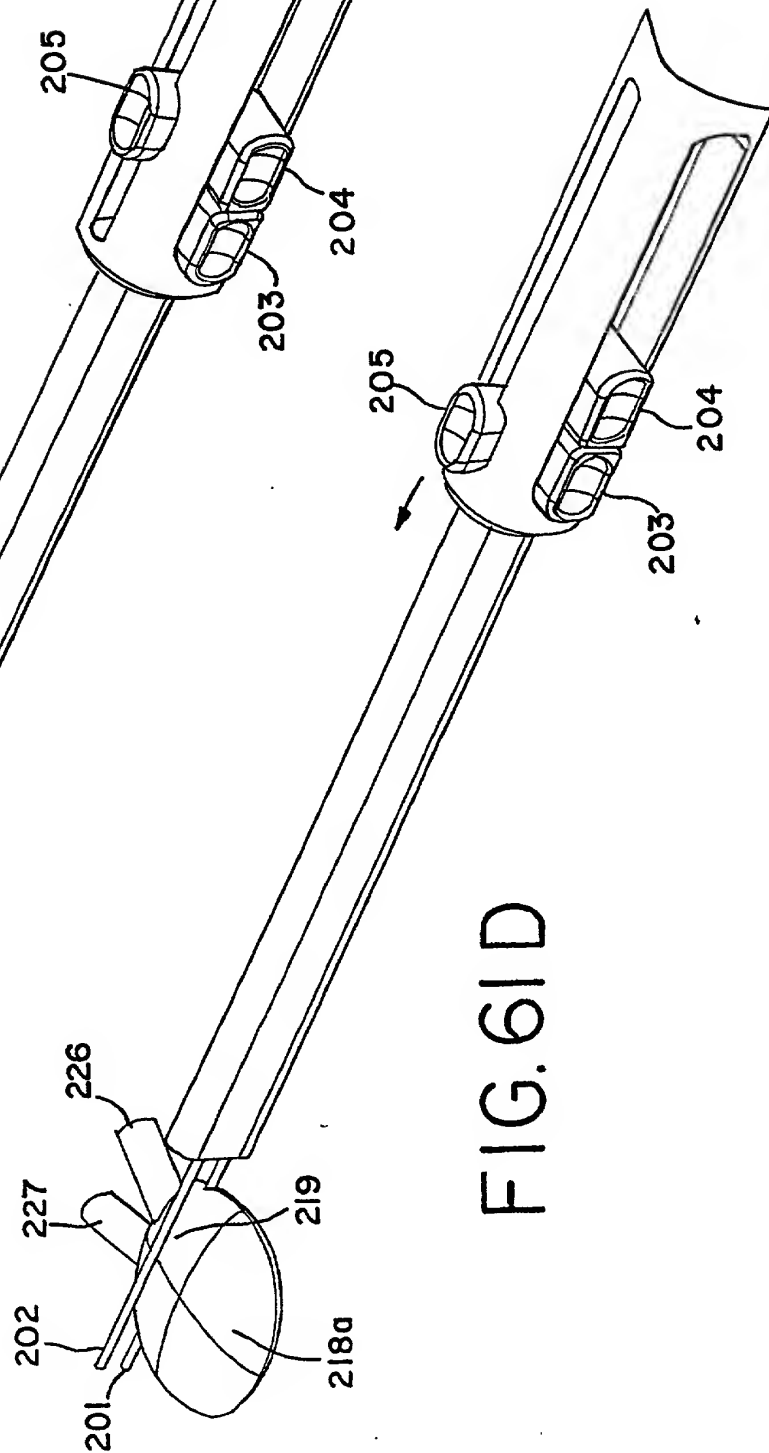
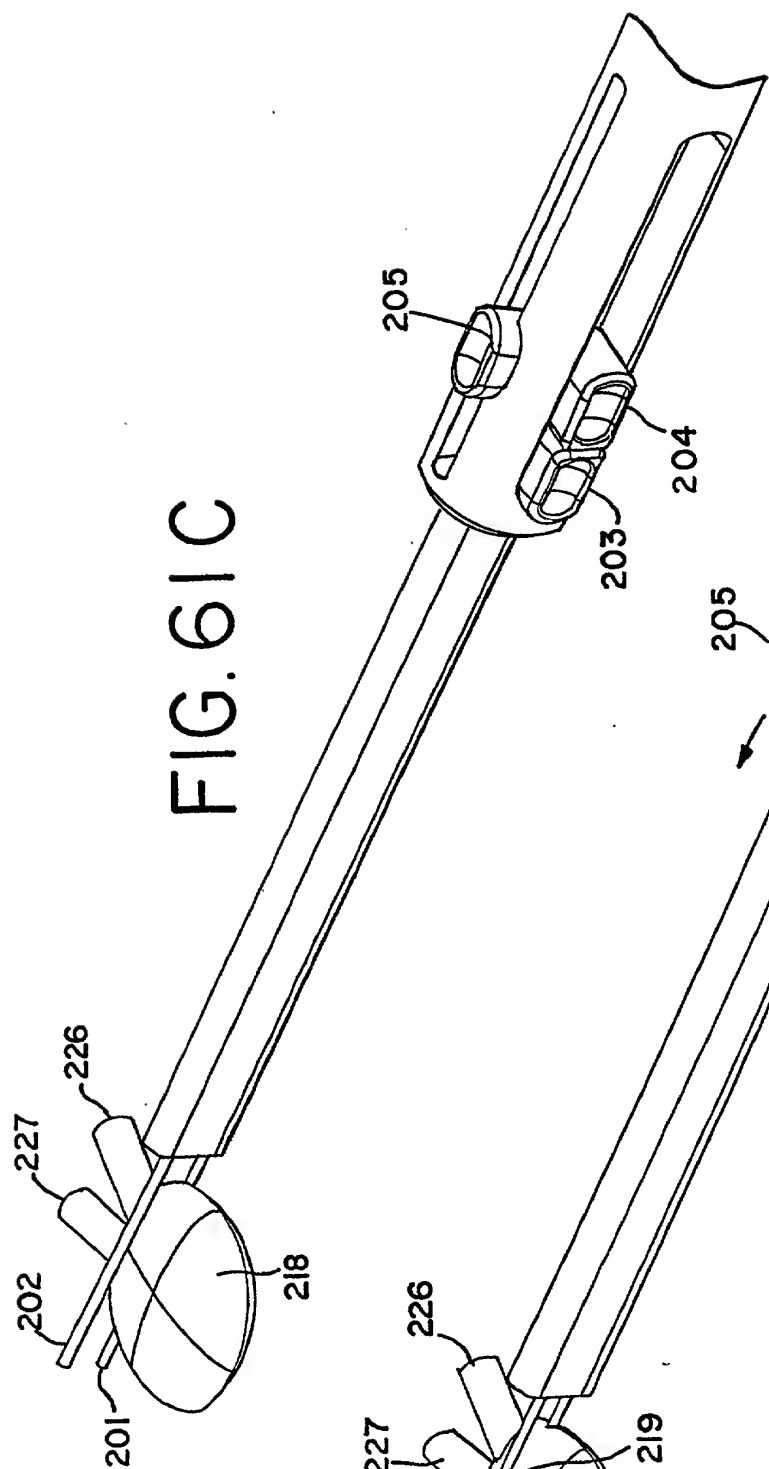


FIG. 6B



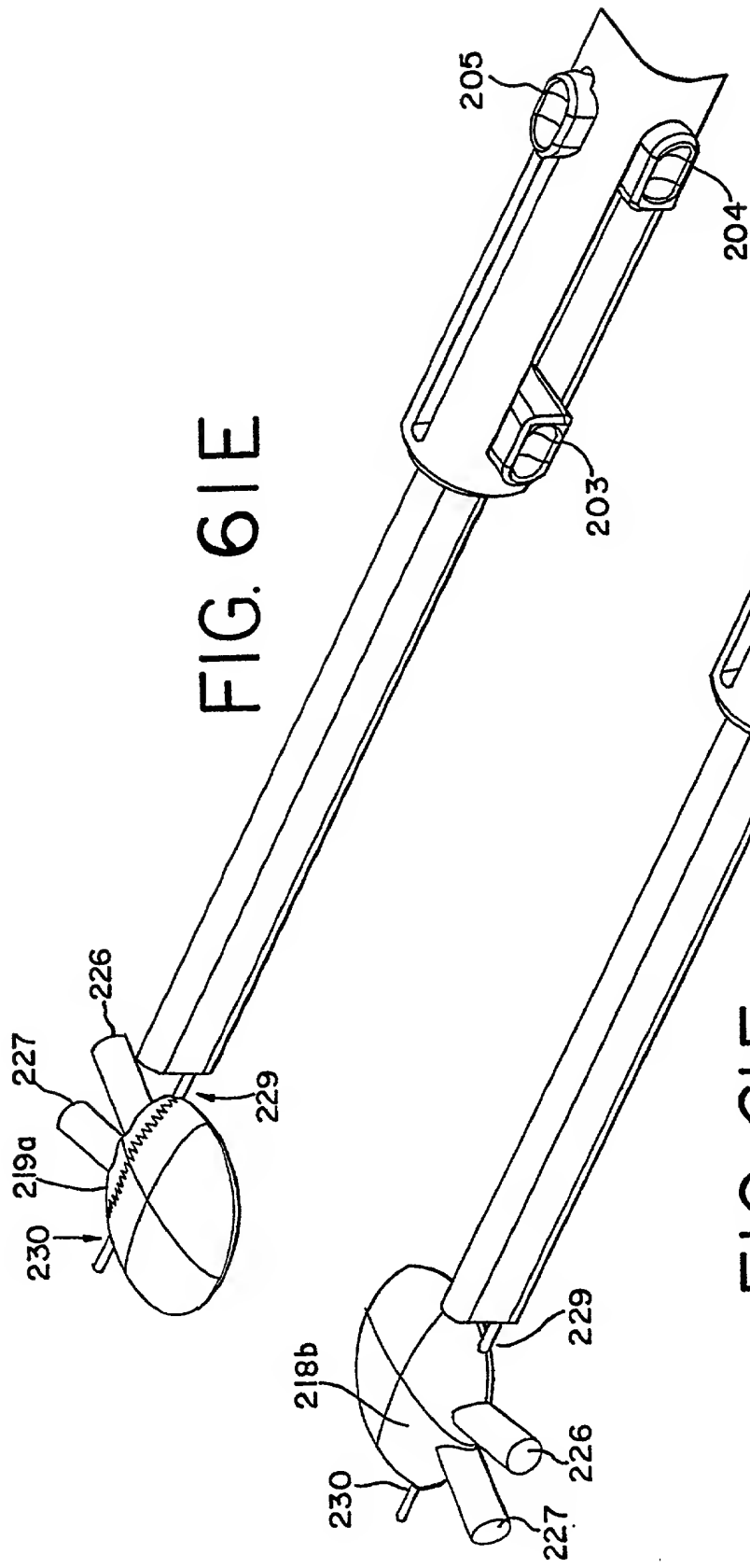


FIG. 61E

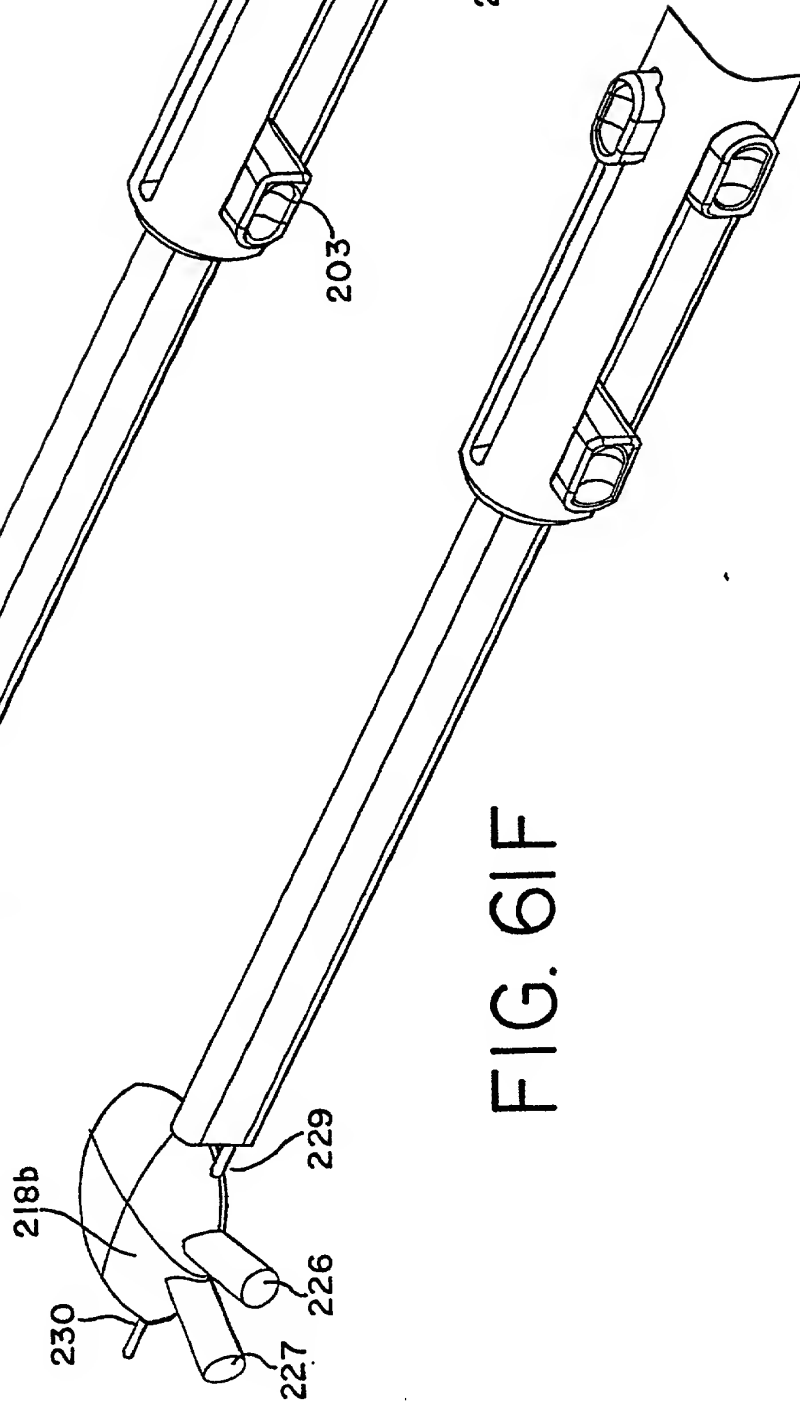


FIG. 61F

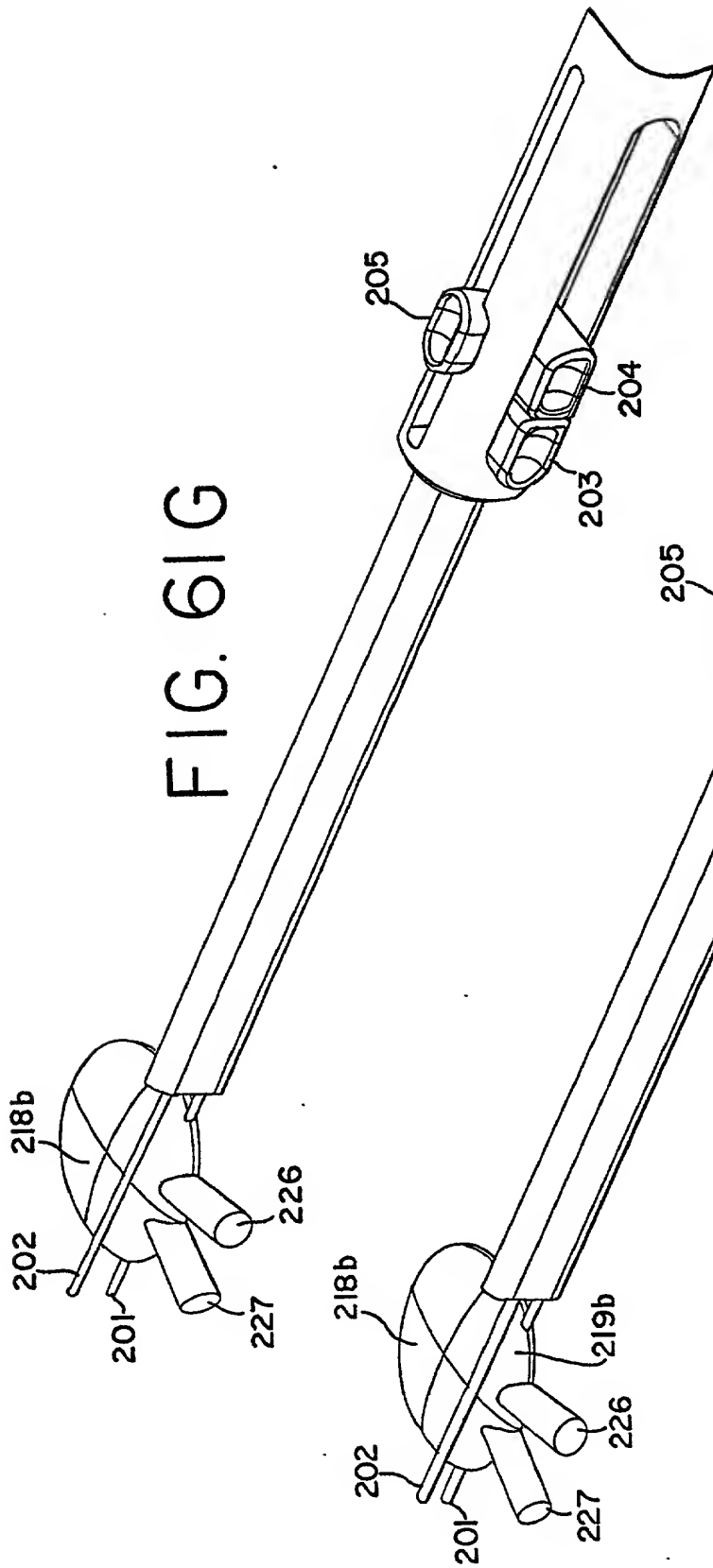
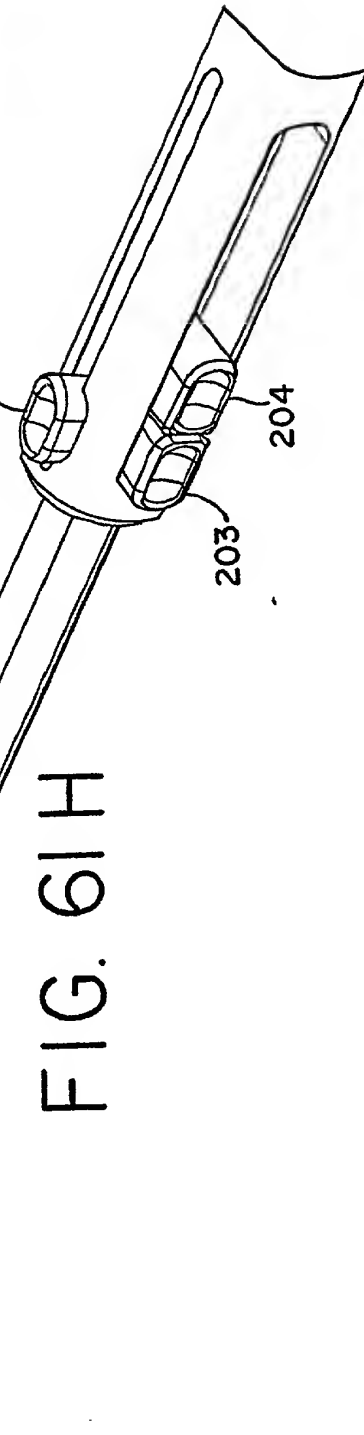


FIG. 6I

FIG. 6IH



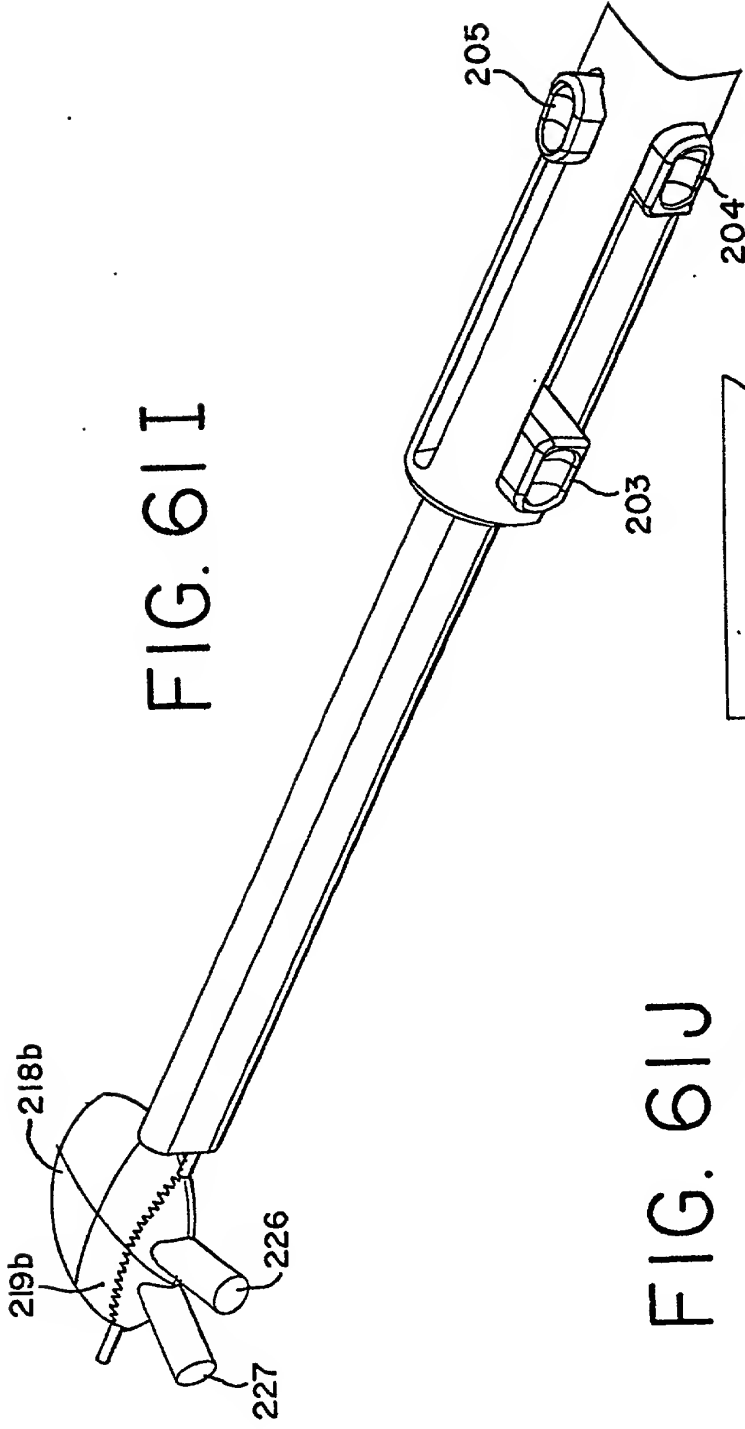
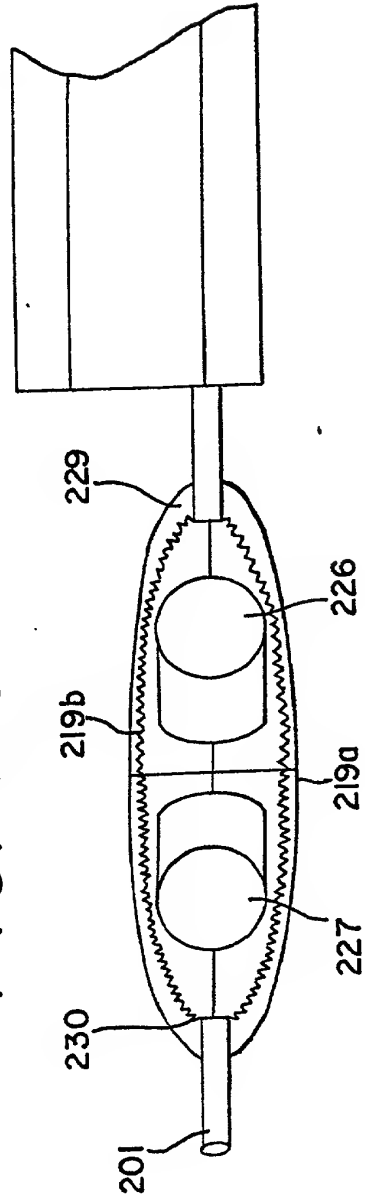


FIG. 6I



Time	Temperature	Pressure	Flow rate	Concentration	Sample	Analysis
0.00	25.0	1.0	1.0	1.0	1.0	1.0
0.05	25.0	1.0	1.0	1.0	1.0	1.0
0.10	25.0	1.0	1.0	1.0	1.0	1.0
0.15	25.0	1.0	1.0	1.0	1.0	1.0
0.20	25.0	1.0	1.0	1.0	1.0	1.0
0.25	25.0	1.0	1.0	1.0	1.0	1.0
0.30	25.0	1.0	1.0	1.0	1.0	1.0
0.35	25.0	1.0	1.0	1.0	1.0	1.0
0.40	25.0	1.0	1.0	1.0	1.0	1.0
0.45	25.0	1.0	1.0	1.0	1.0	1.0
0.50	25.0	1.0	1.0	1.0	1.0	1.0
0.55	25.0	1.0	1.0	1.0	1.0	1.0
0.60	25.0	1.0	1.0	1.0	1.0	1.0
0.65	25.0	1.0	1.0	1.0	1.0	1.0
0.70	25.0	1.0	1.0	1.0	1.0	1.0
0.75	25.0	1.0	1.0	1.0	1.0	1.0
0.80	25.0	1.0	1.0	1.0	1.0	1.0
0.85	25.0	1.0	1.0	1.0	1.0	1.0
0.90	25.0	1.0	1.0	1.0	1.0	1.0
0.95	25.0	1.0	1.0	1.0	1.0	1.0
1.00	25.0	1.0	1.0	1.0	1.0	1.0



Time	Temperature	Pressure	Flow rate	Concentration	Sample	Analysis
0.00	25.0	1.0	1.0	1.0	1.0	1.0
0.05	25.0	1.0	1.0	1.0	1.0	1.0
0.10	25.0	1.0	1.0	1.0	1.0	1.0
0.15	25.0	1.0	1.0	1.0	1.0	1.0
0.20	25.0	1.0	1.0	1.0	1.0	1.0
0.25	25.0	1.0	1.0	1.0	1.0	1.0
0.30	25.0	1.0	1.0	1.0	1.0	1.0
0.35	25.0	1.0	1.0	1.0	1.0	1.0
0.40	25.0	1.0	1.0	1.0	1.0	1.0
0.45	25.0	1.0	1.0	1.0	1.0	1.0
0.50	25.0	1.0	1.0	1.0	1.0	1.0
0.55	25.0	1.0	1.0	1.0	1.0	1.0
0.60	25.0	1.0	1.0	1.0	1.0	1.0
0.65	25.0	1.0	1.0	1.0	1.0	1.0
0.70	25.0	1.0	1.0	1.0	1.0	1.0
0.75	25.0	1.0	1.0	1.0	1.0	1.0
0.80	25.0	1.0	1.0	1.0	1.0	1.0
0.85	25.0	1.0	1.0	1.0	1.0	1.0
0.90	25.0	1.0	1.0	1.0	1.0	1.0
0.95	25.0	1.0	1.0	1.0	1.0	1.0
1.00	25.0	1.0	1.0	1.0	1.0	1.0

[illegible]

FIG. 62D

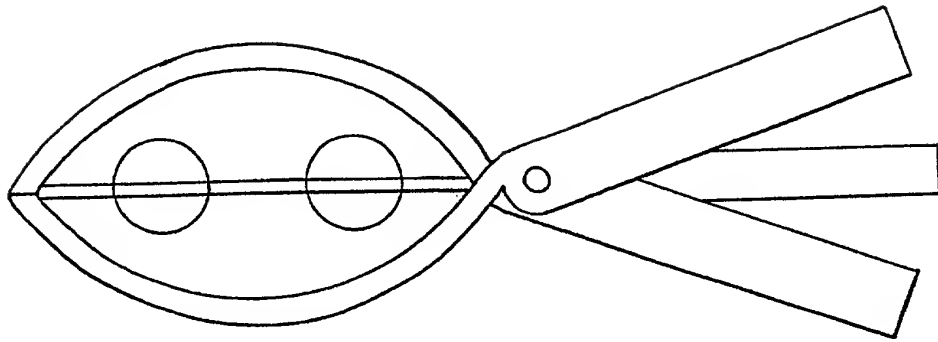


FIG. 62E

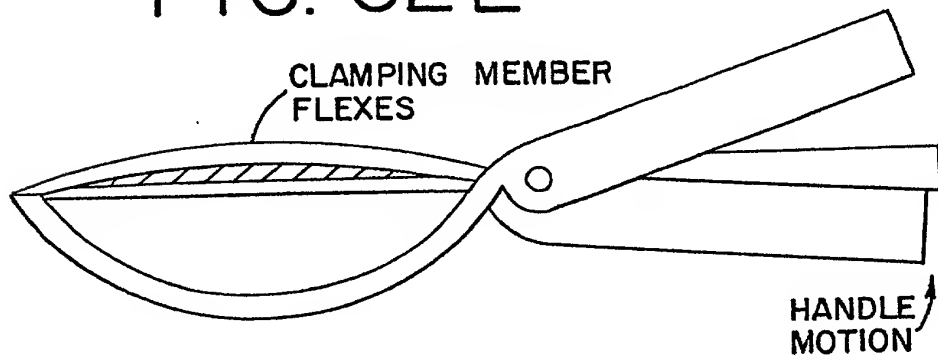


FIG. 62F

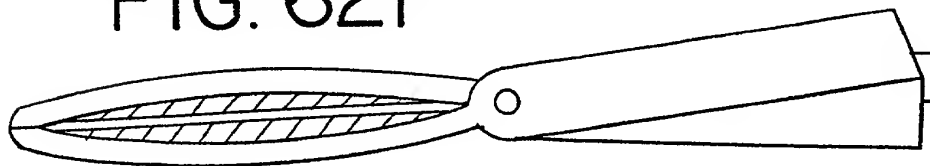


FIG. 62G

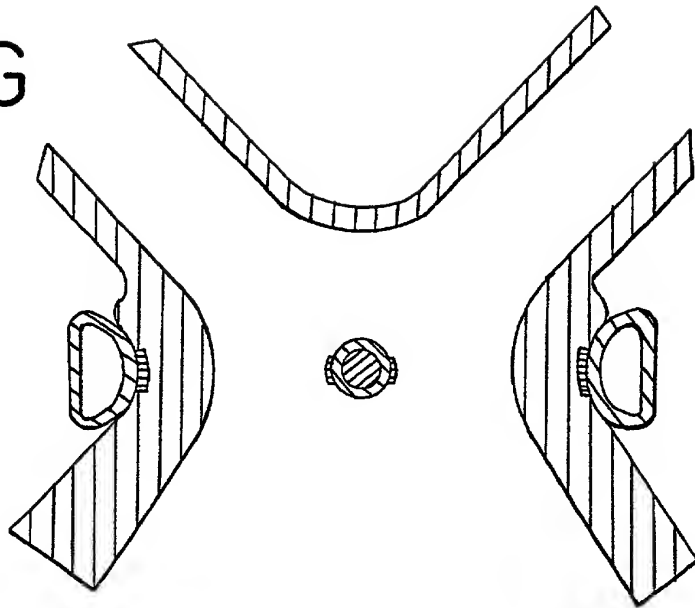


FIG. 62H

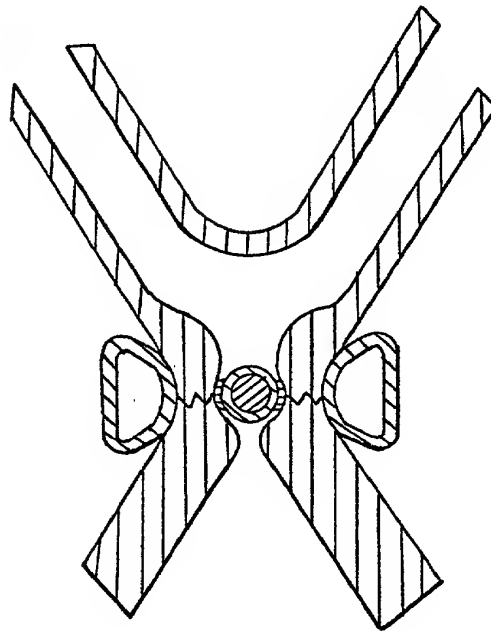
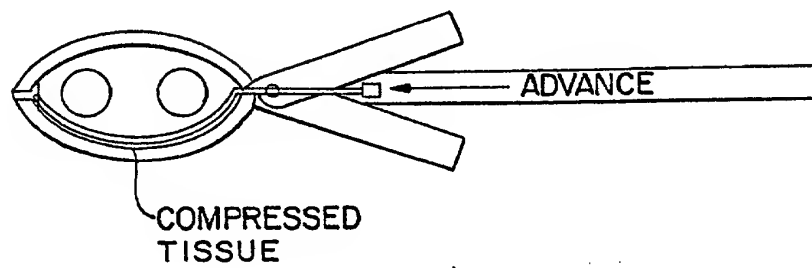


FIG. 62I



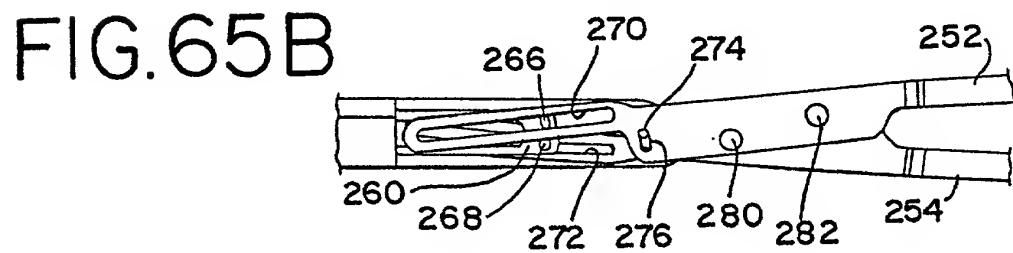
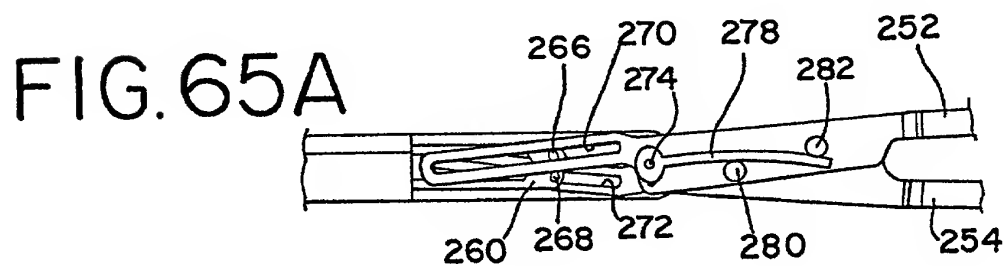
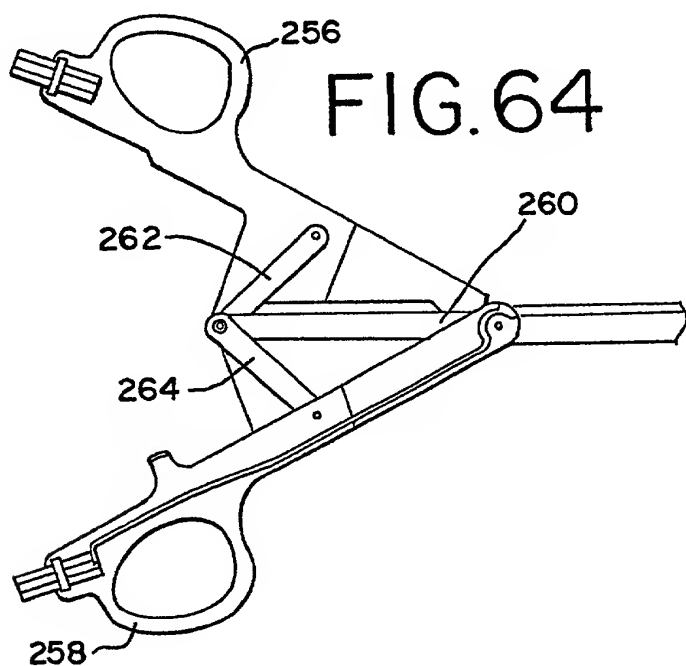
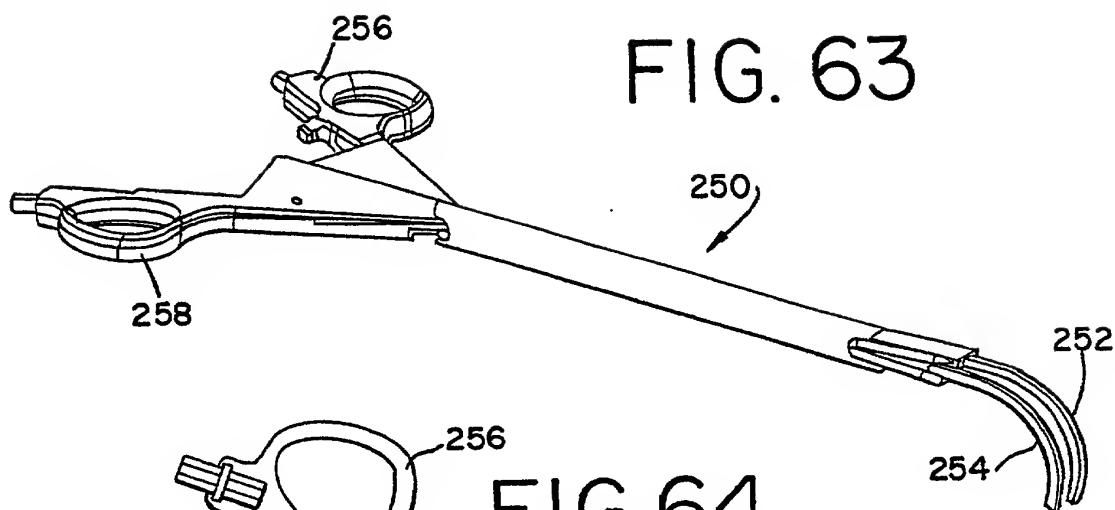


FIG. 66

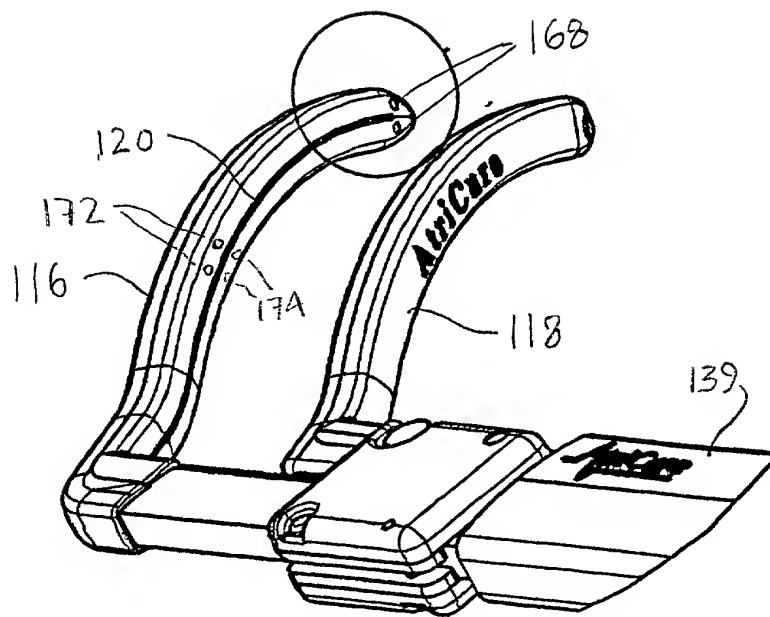


FIG. 67

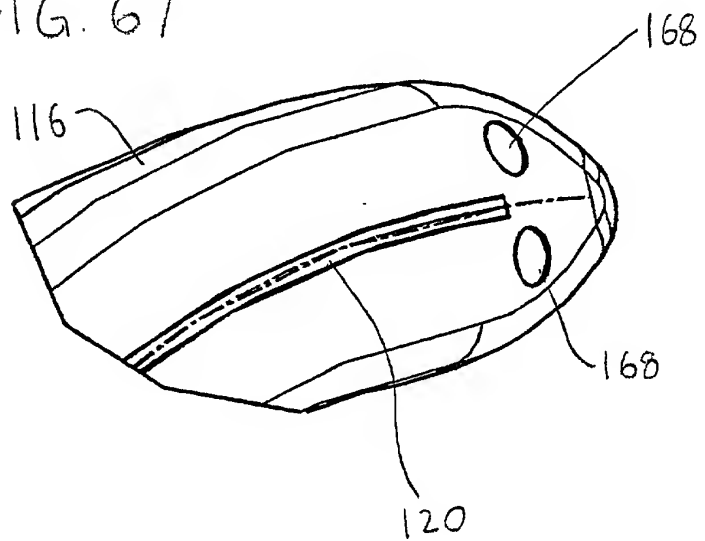


FIG. 68 is a schematic diagram of a human torso showing the rib cage and heart. The diagram is labeled with various anatomical features and reference numerals.

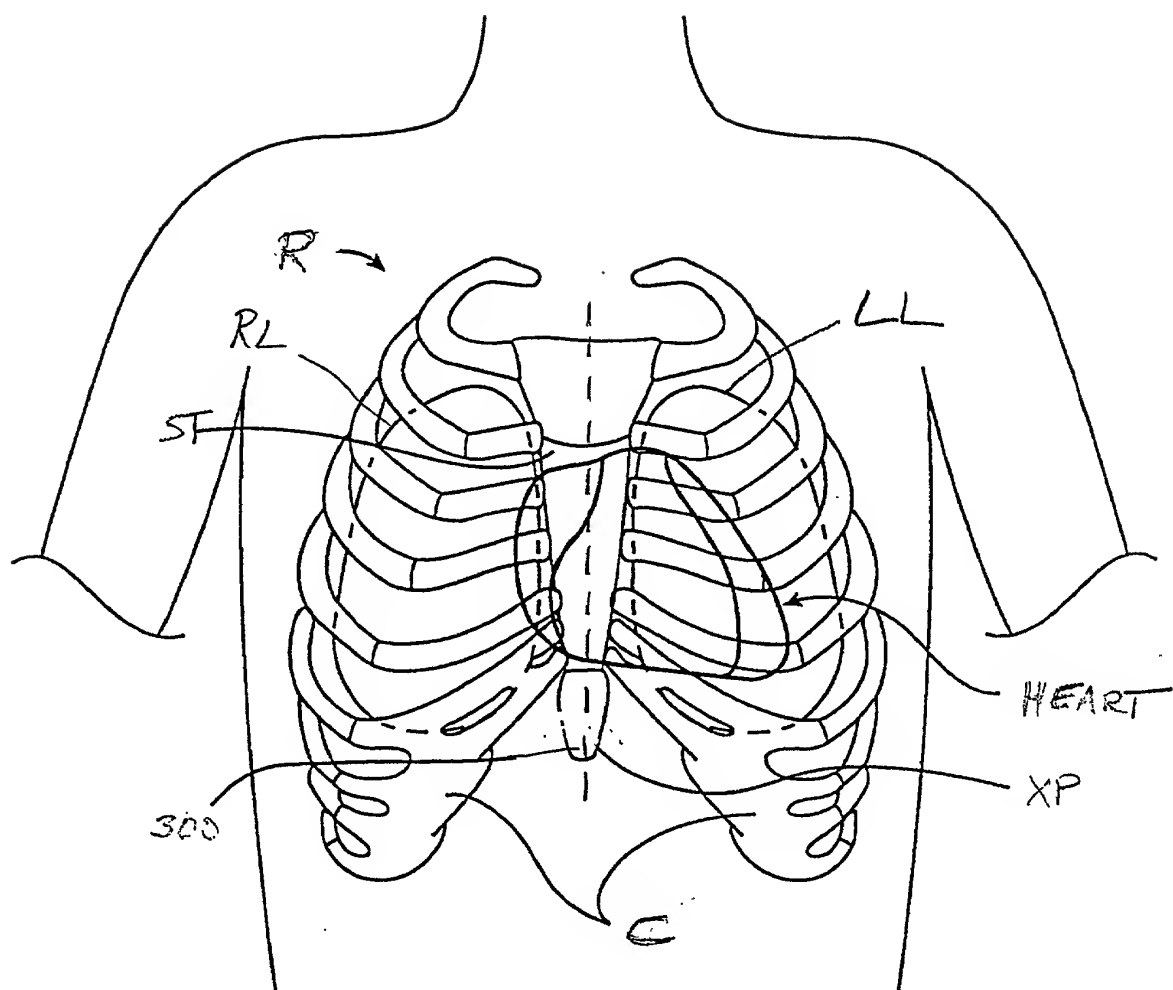


FIG. 68

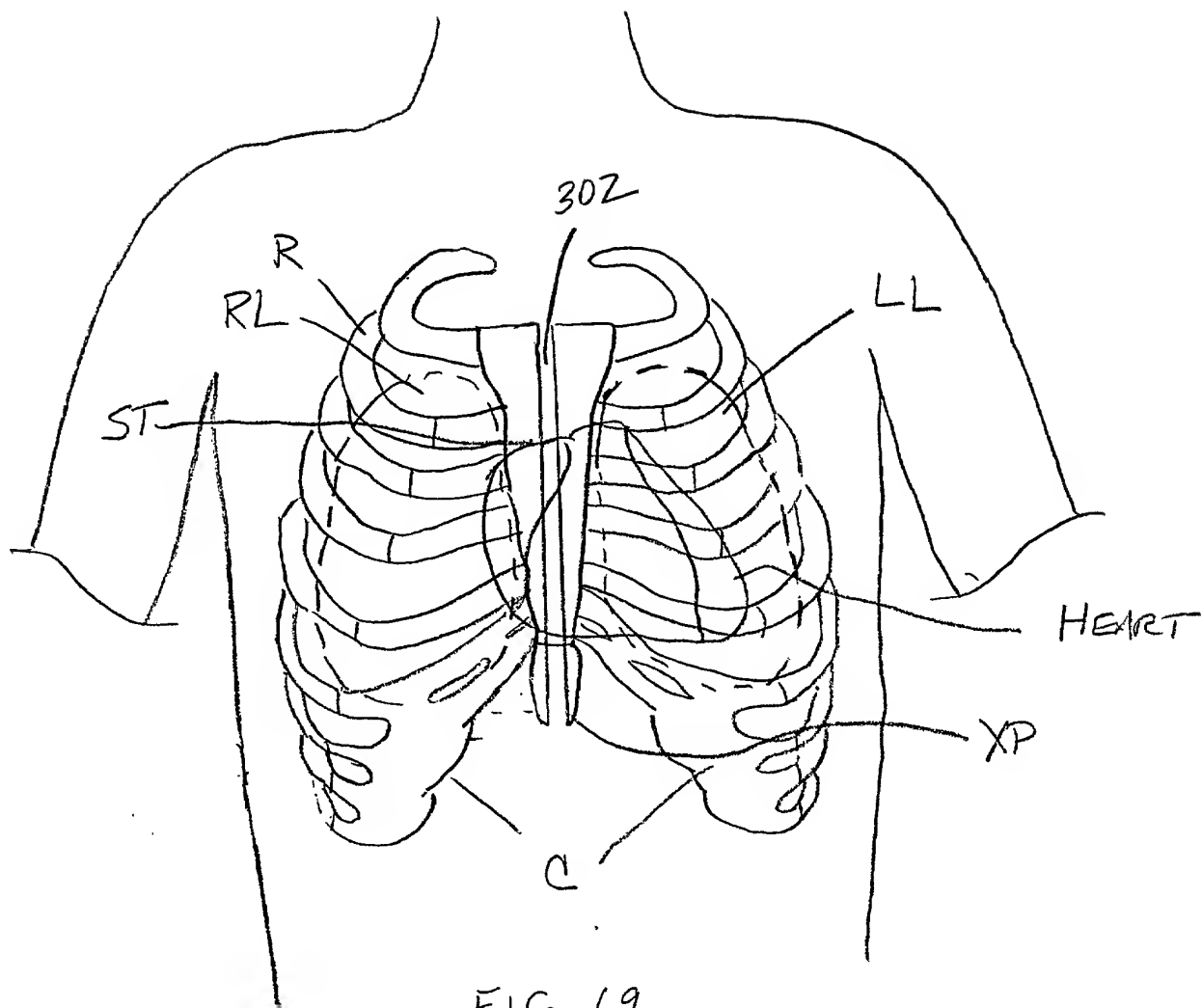


FIG. 69

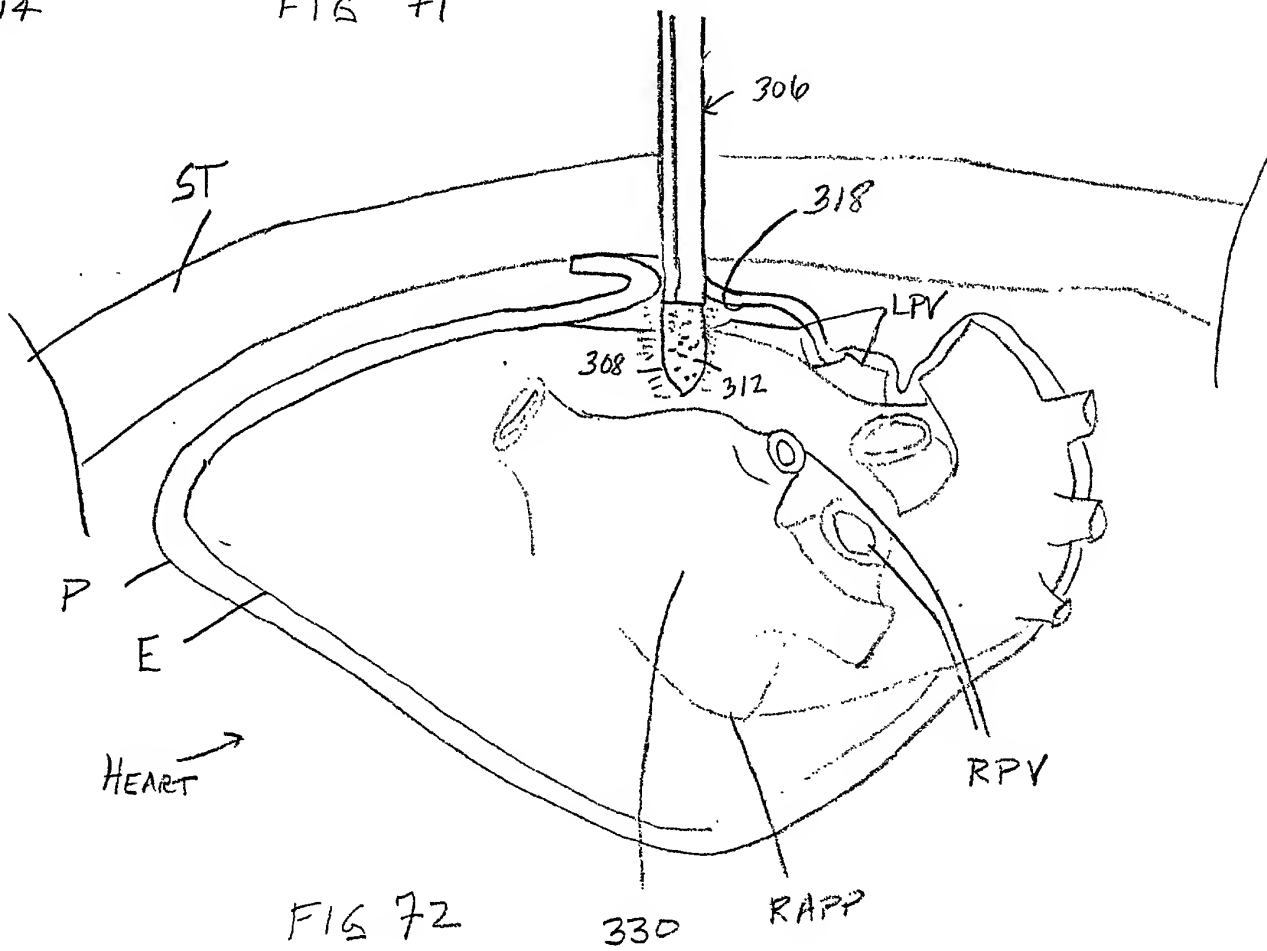
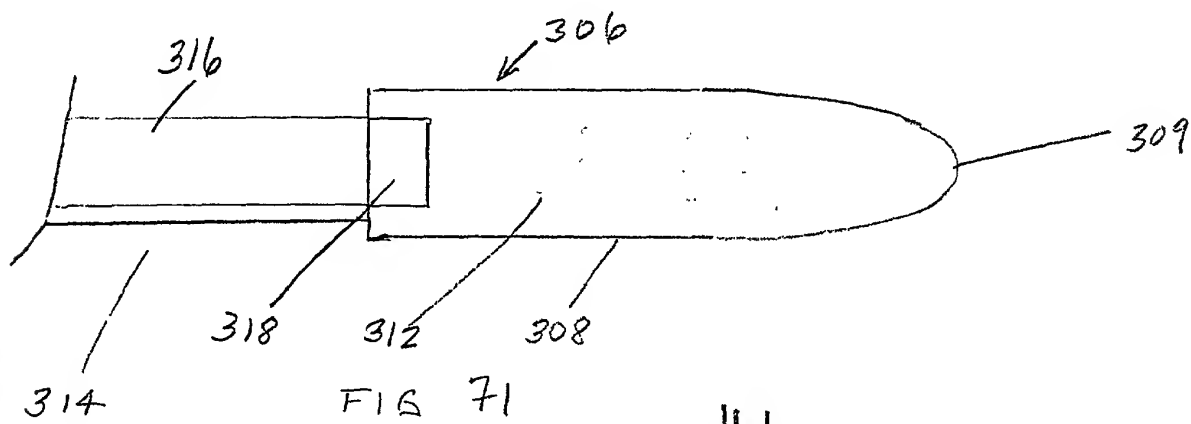
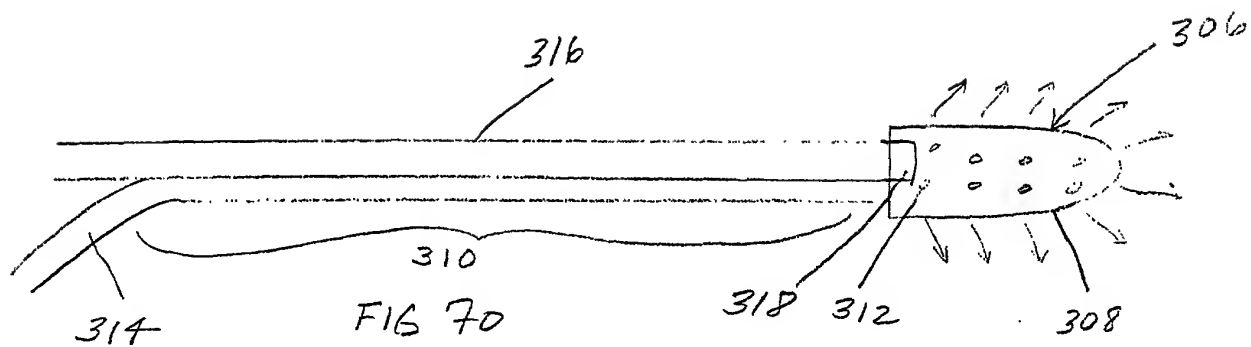


FIG 74

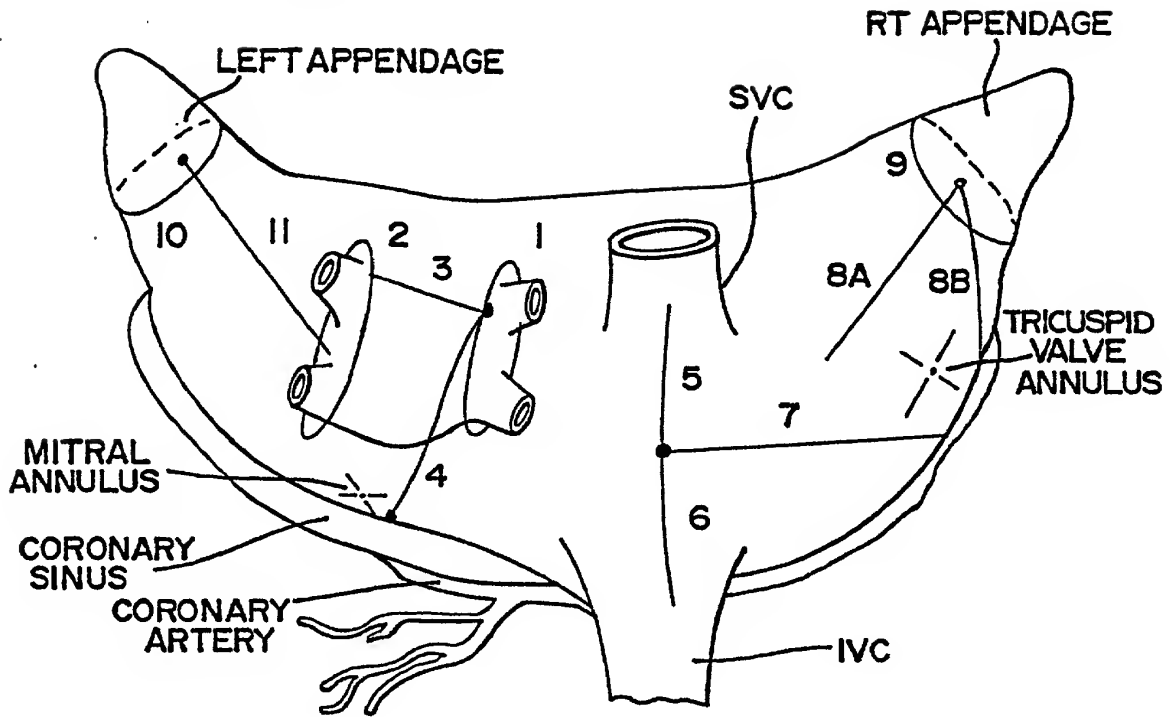
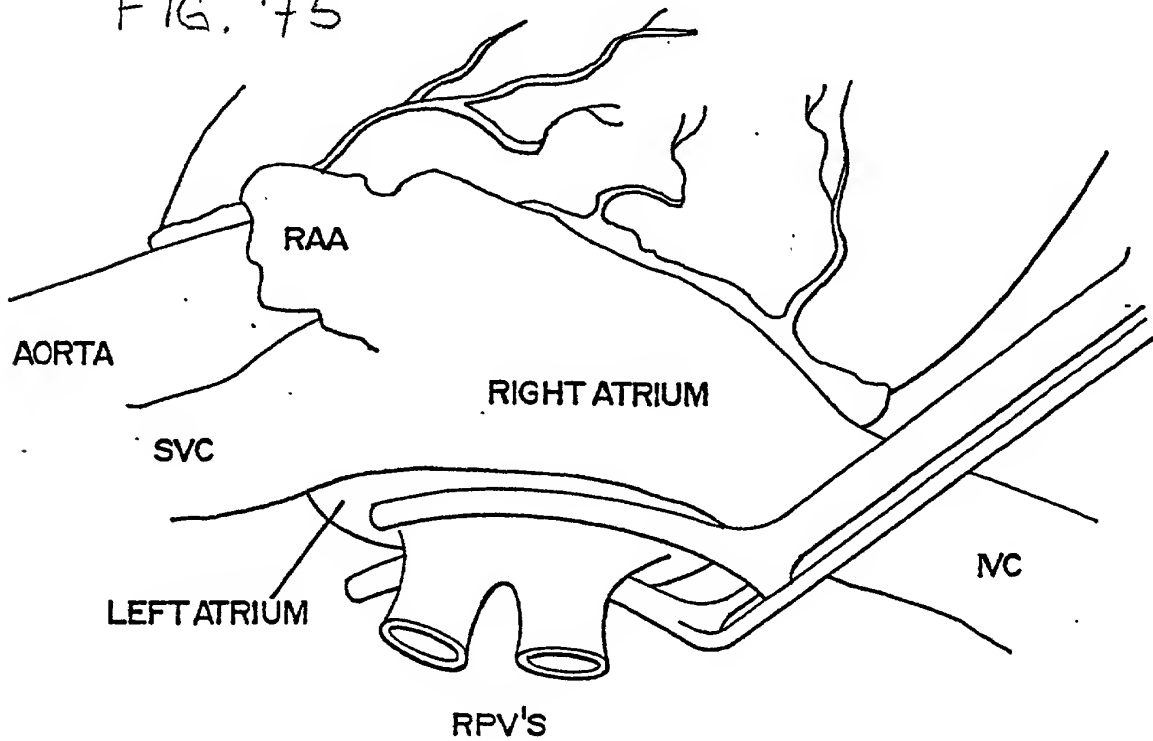


FIG. 75



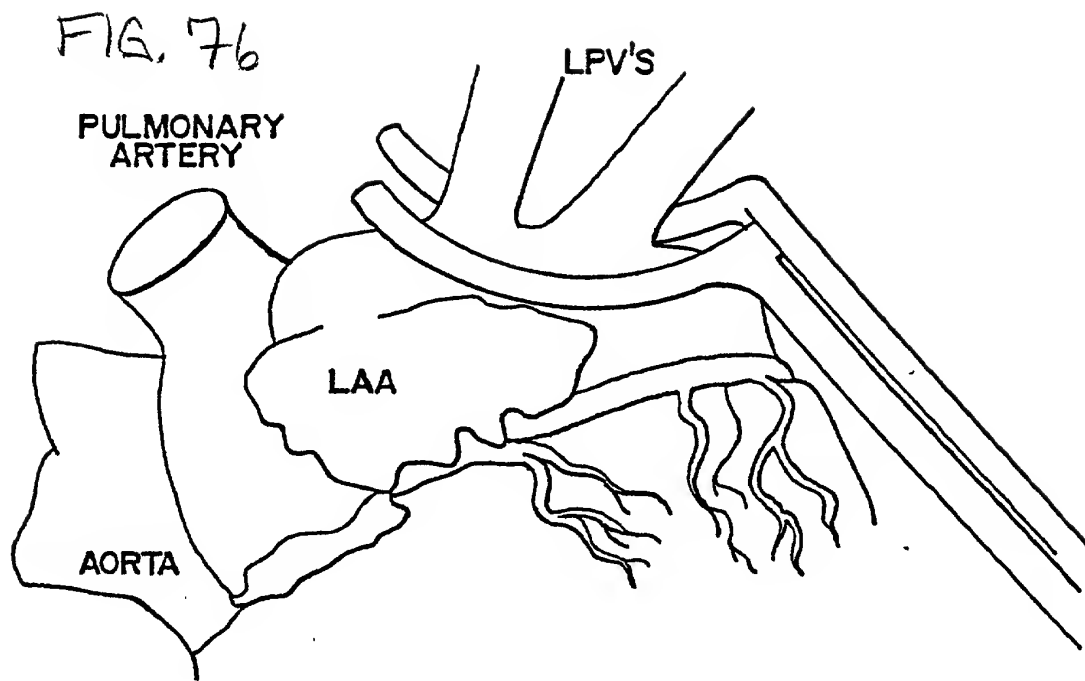
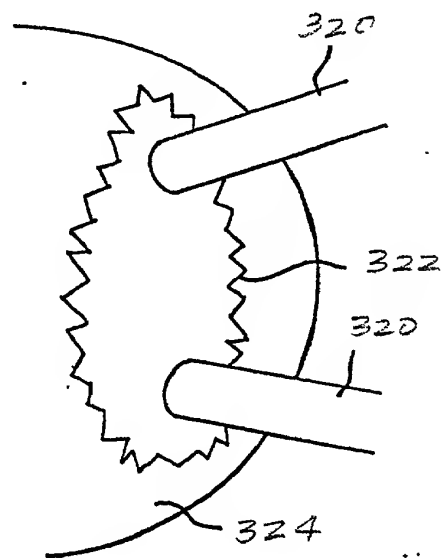


FIG. 77



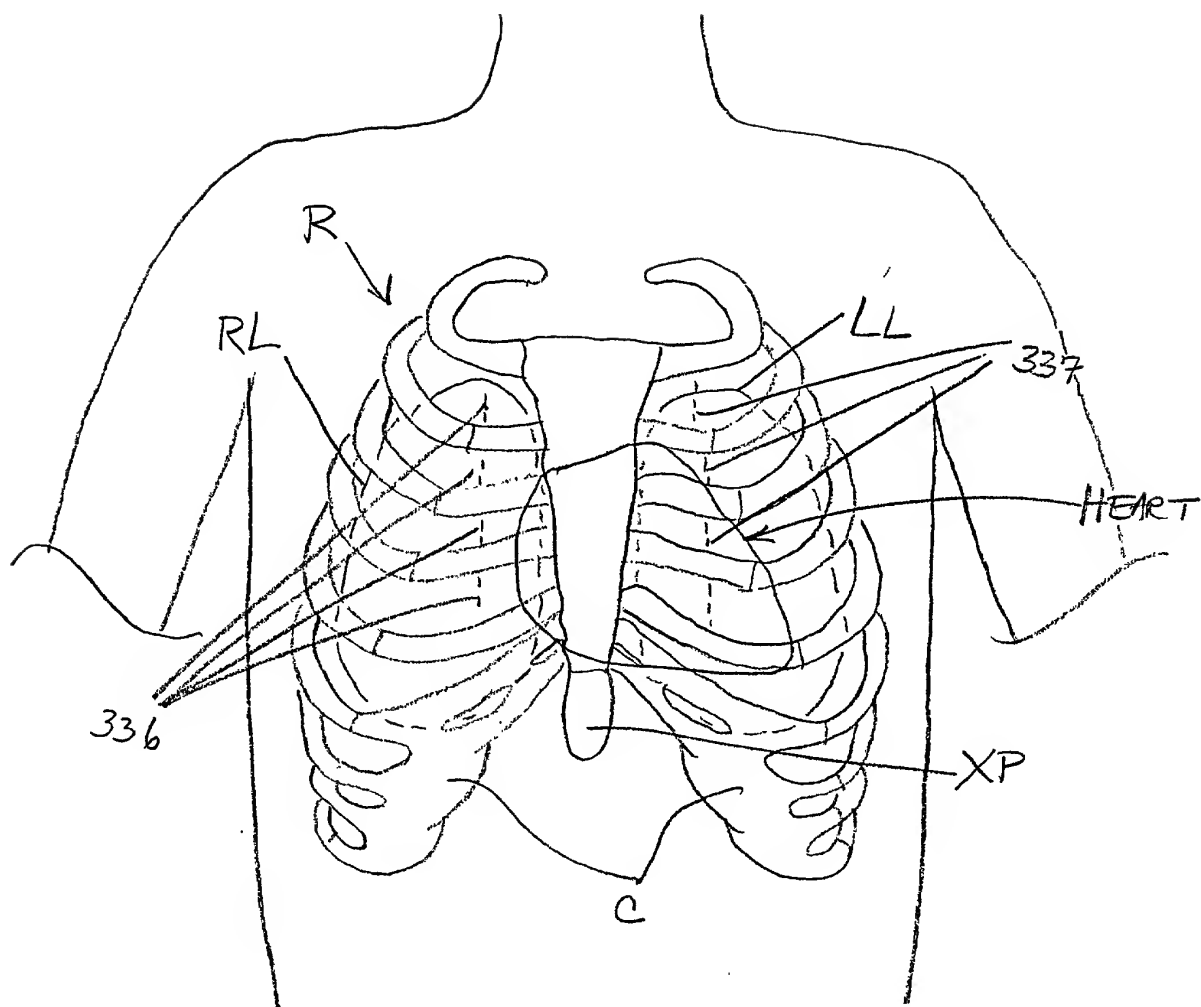
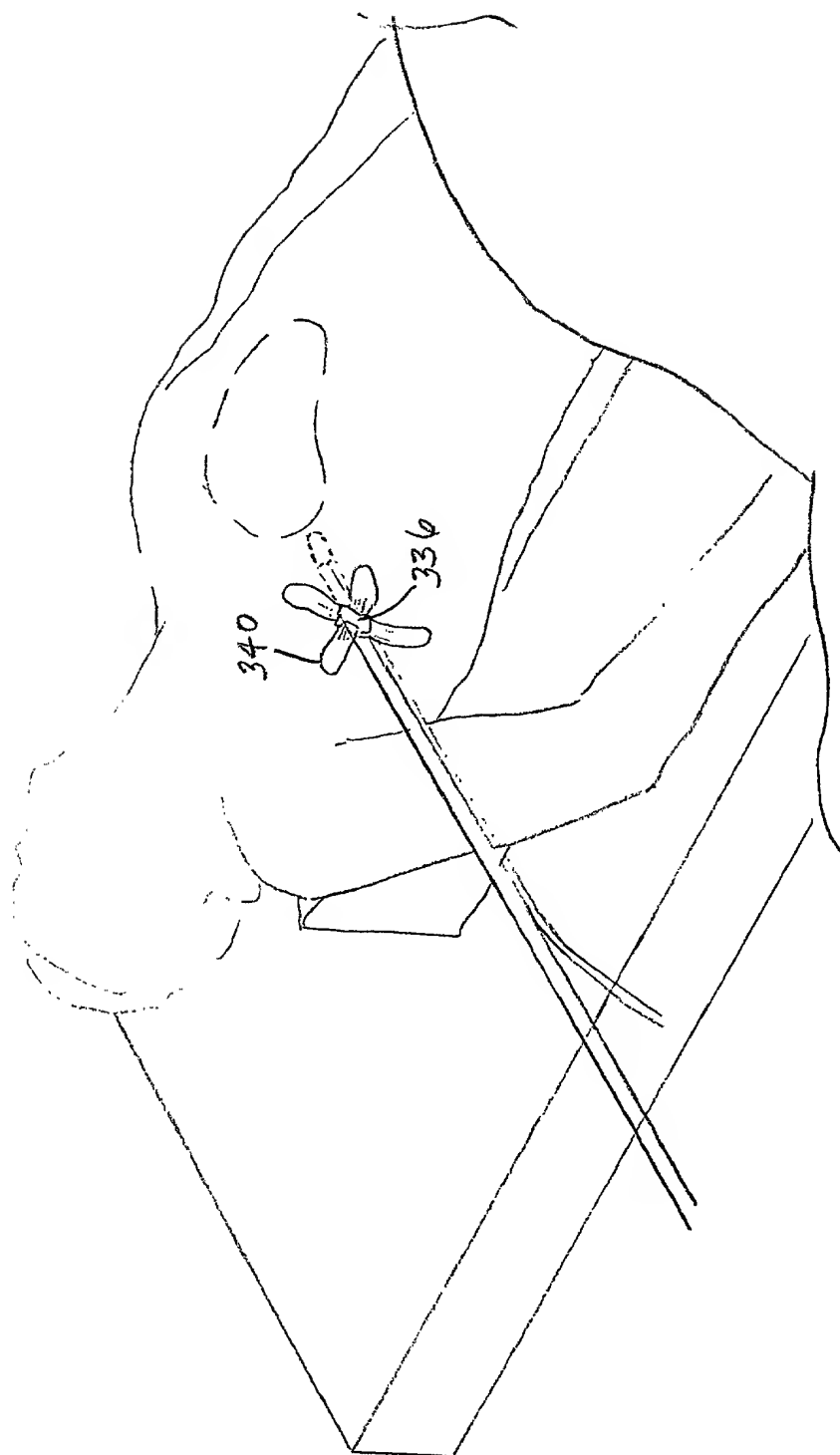


FIG. 78



67.519

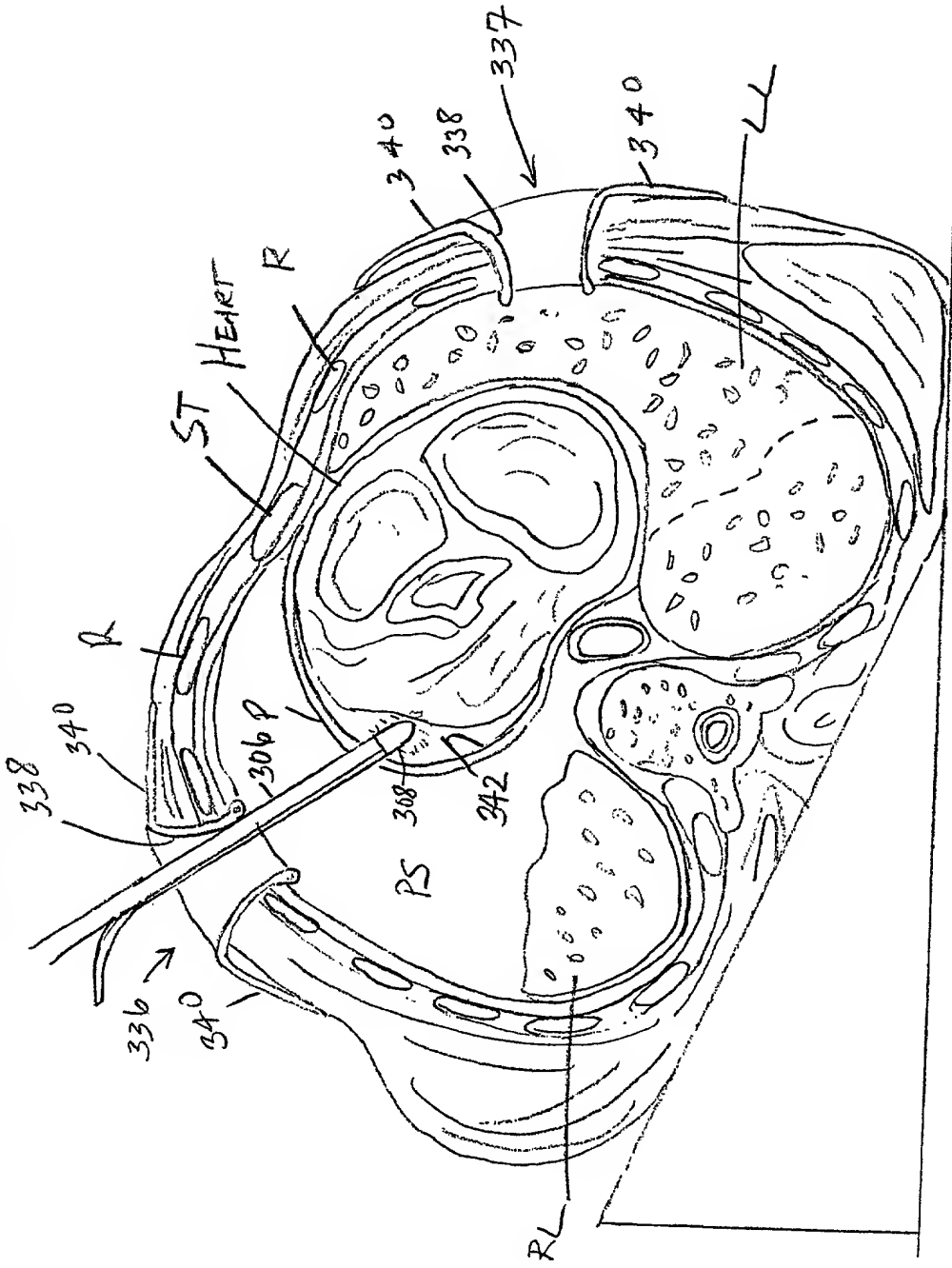


FIG. 81

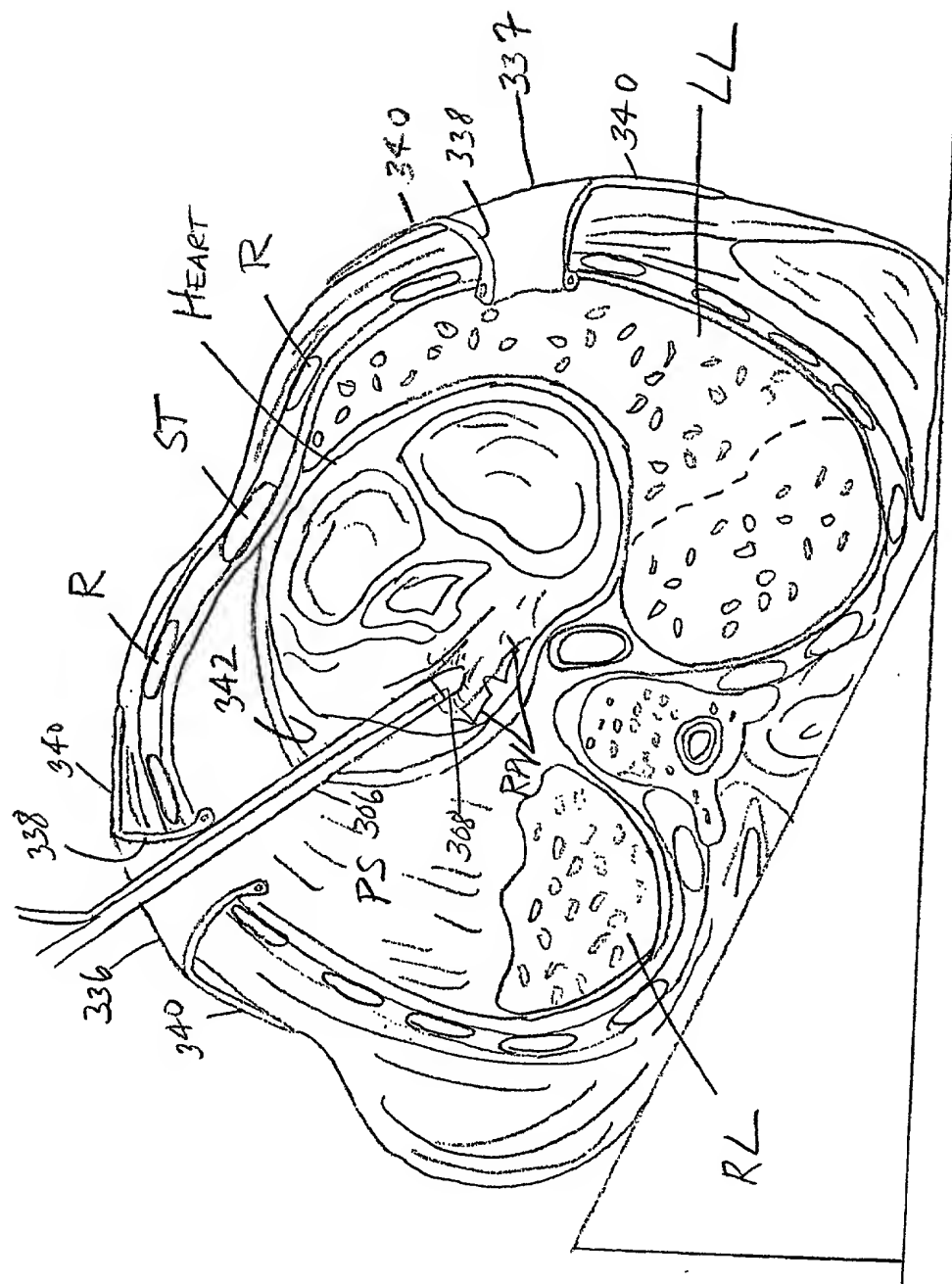


FIG. 82

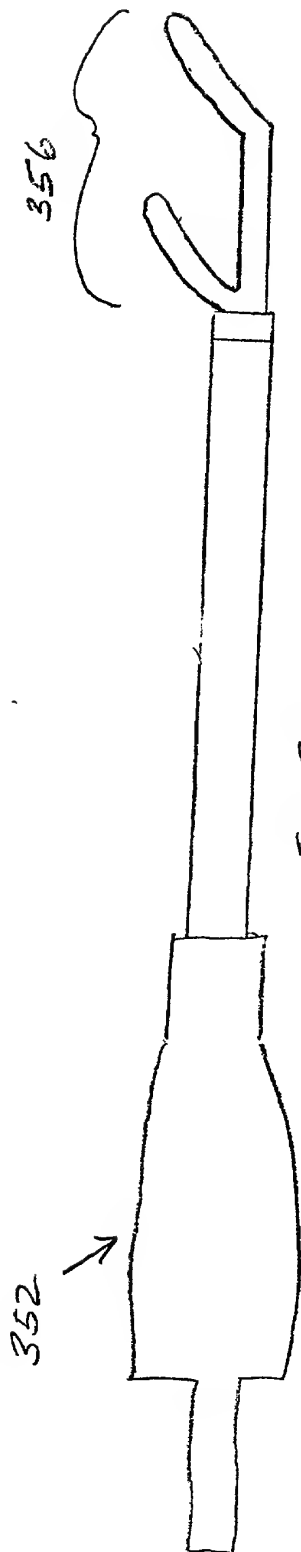


FIG. 83

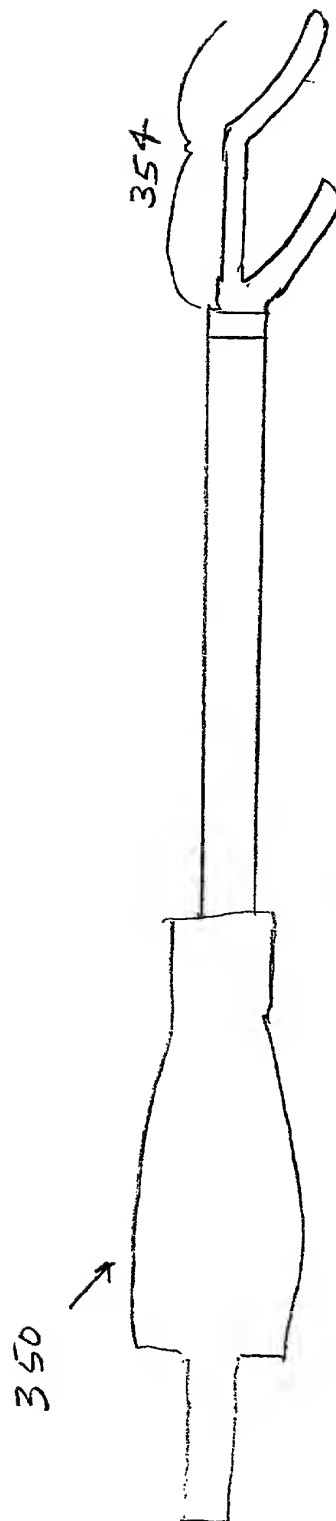


FIG. 83A

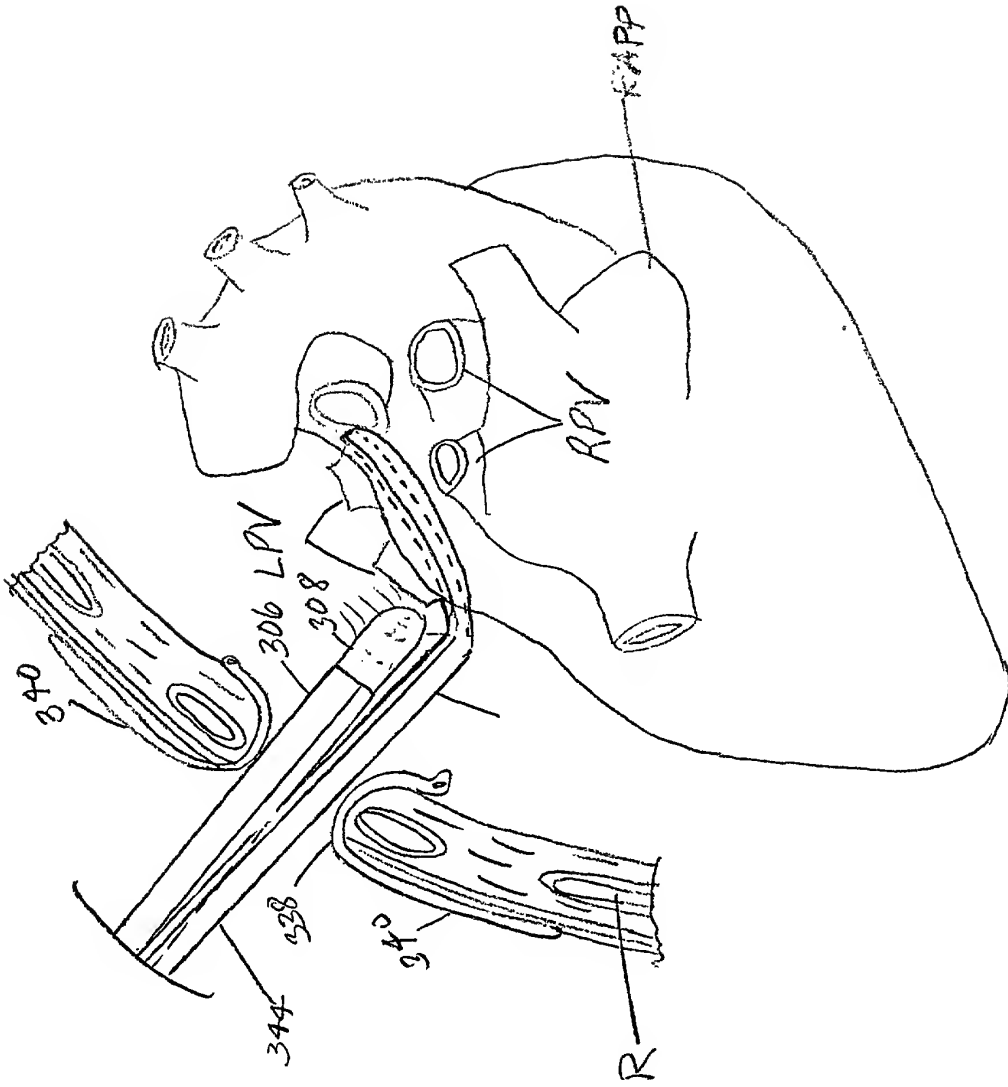


FIG 84

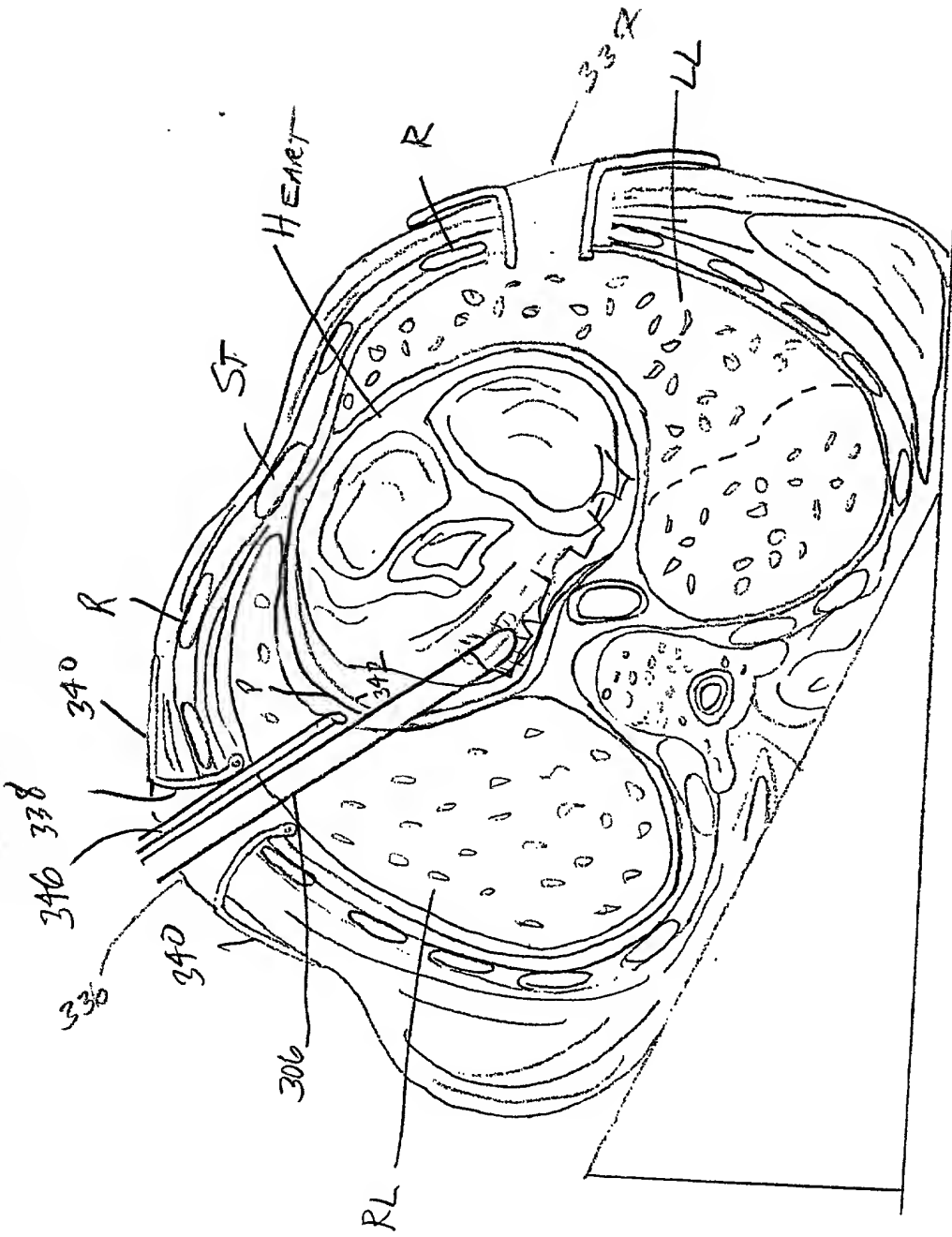
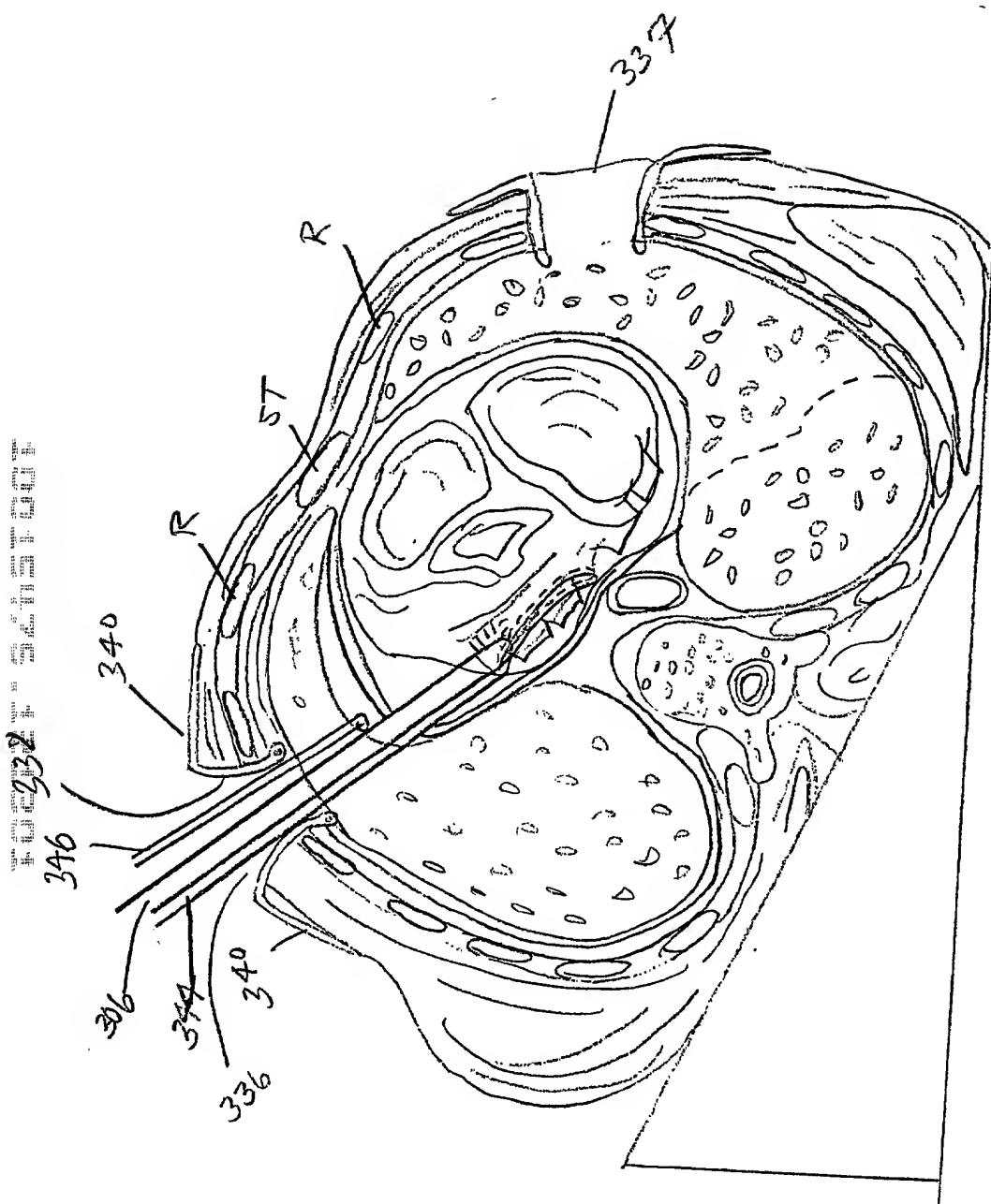


FIG. 85



86
11
11

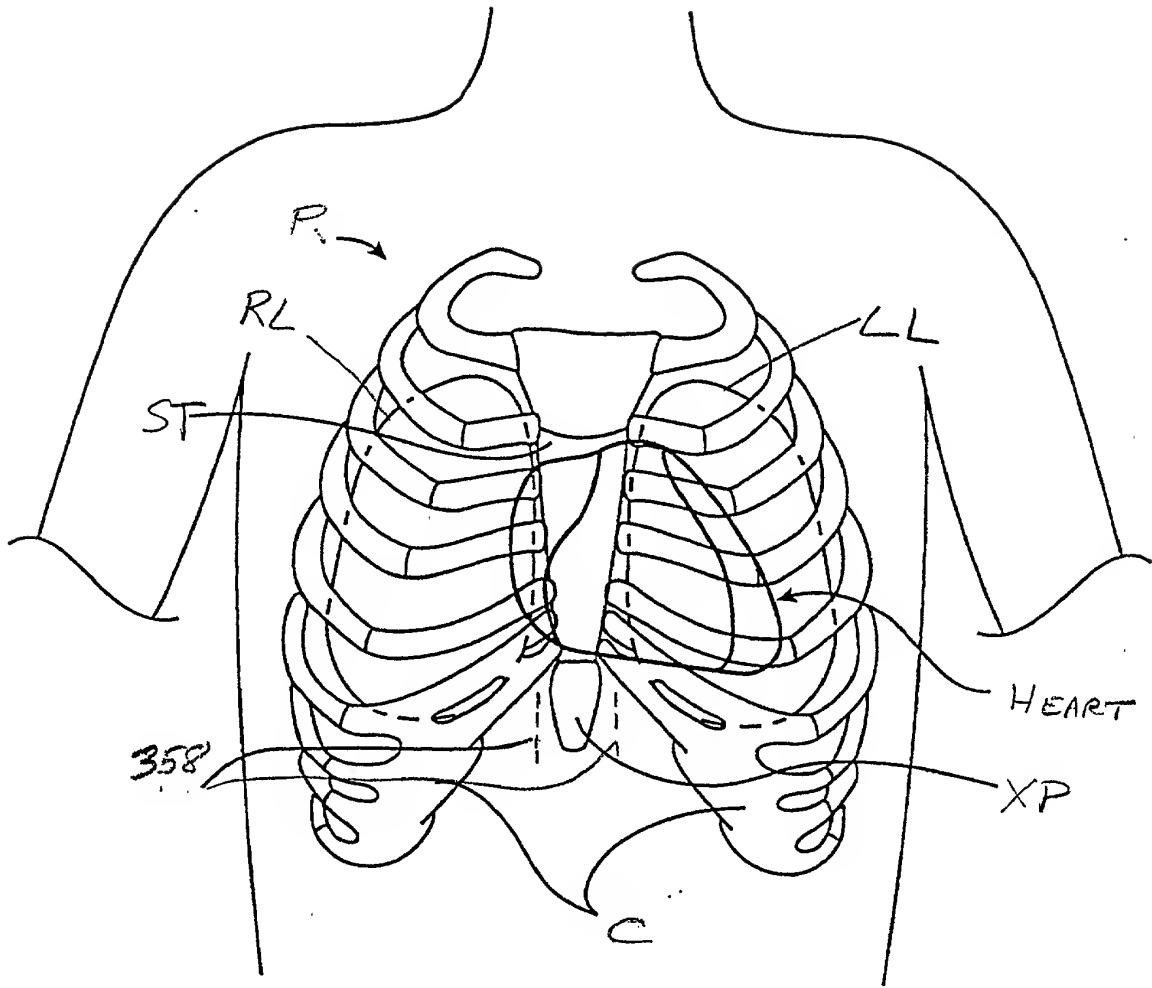


FIG. 87

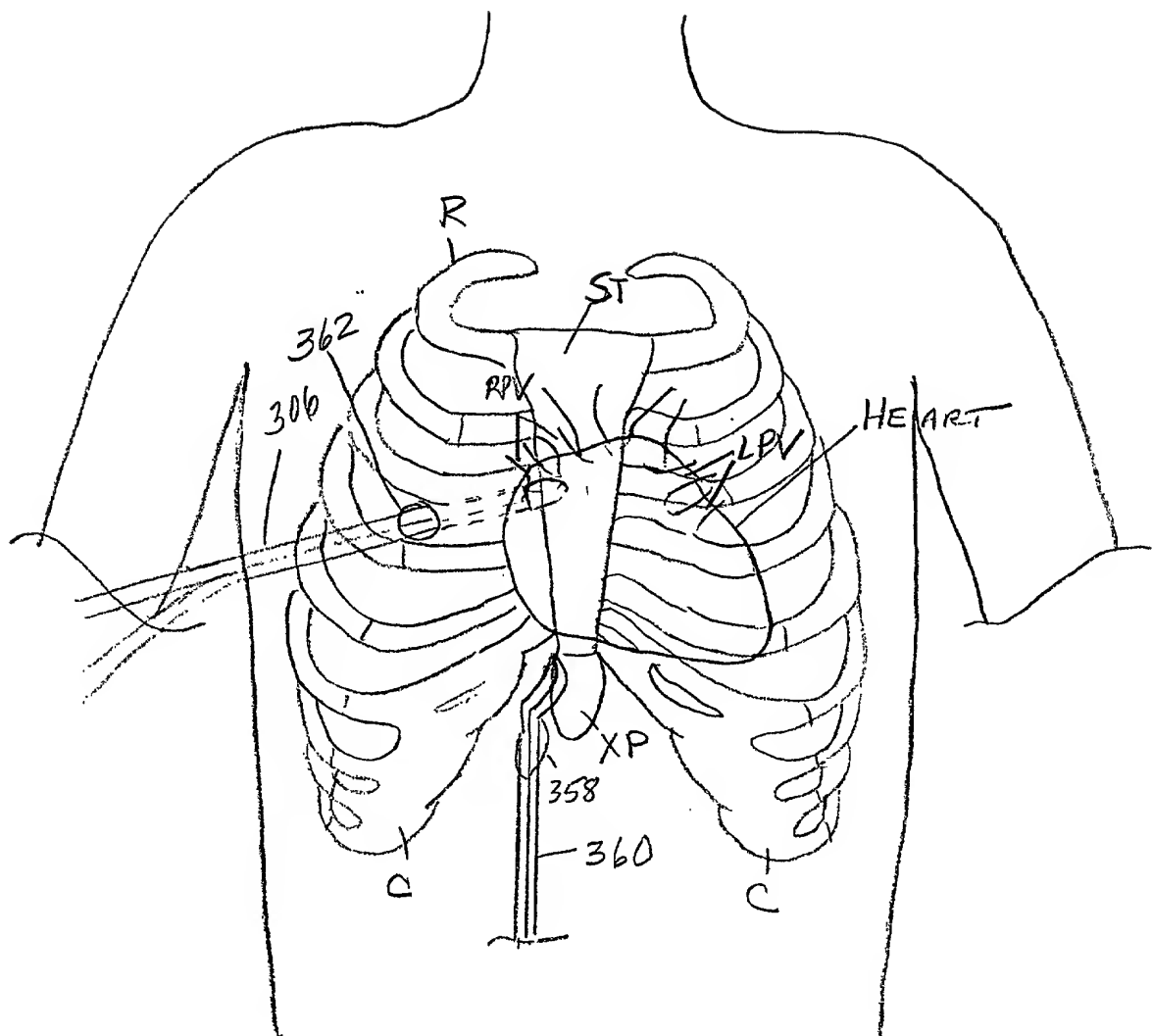


FIG. 88

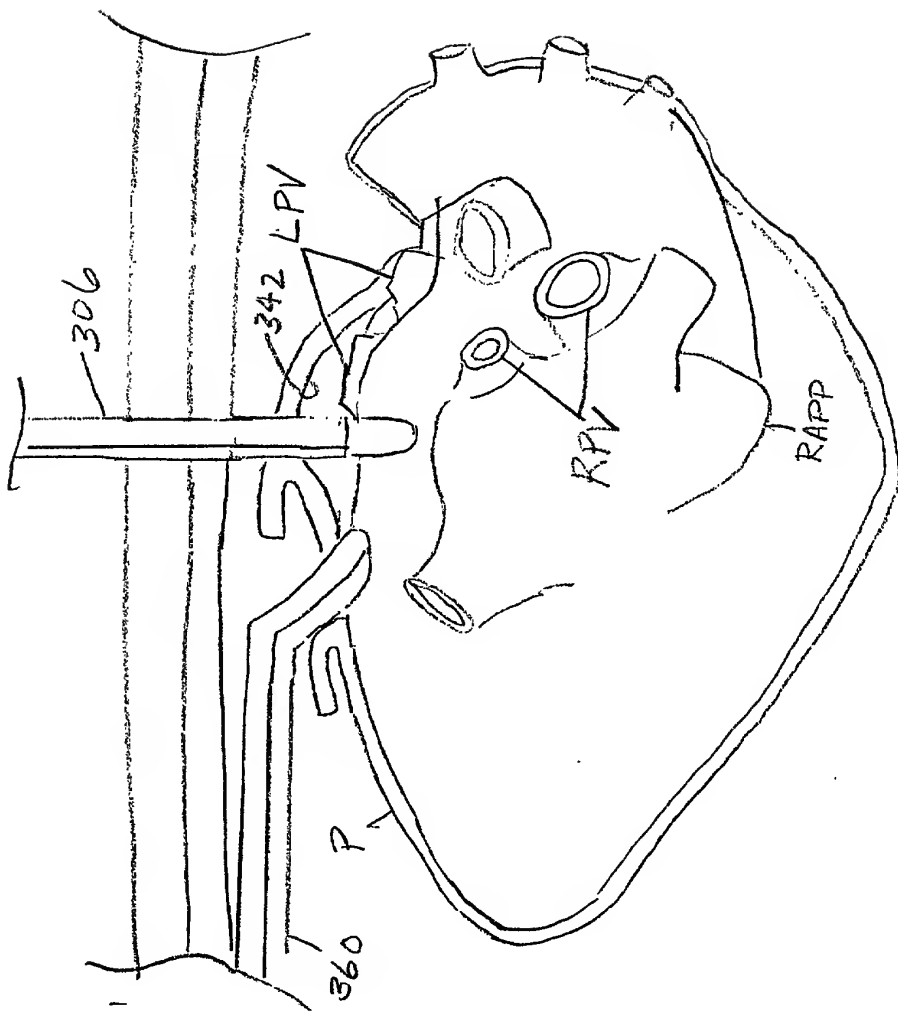


FIG. 89

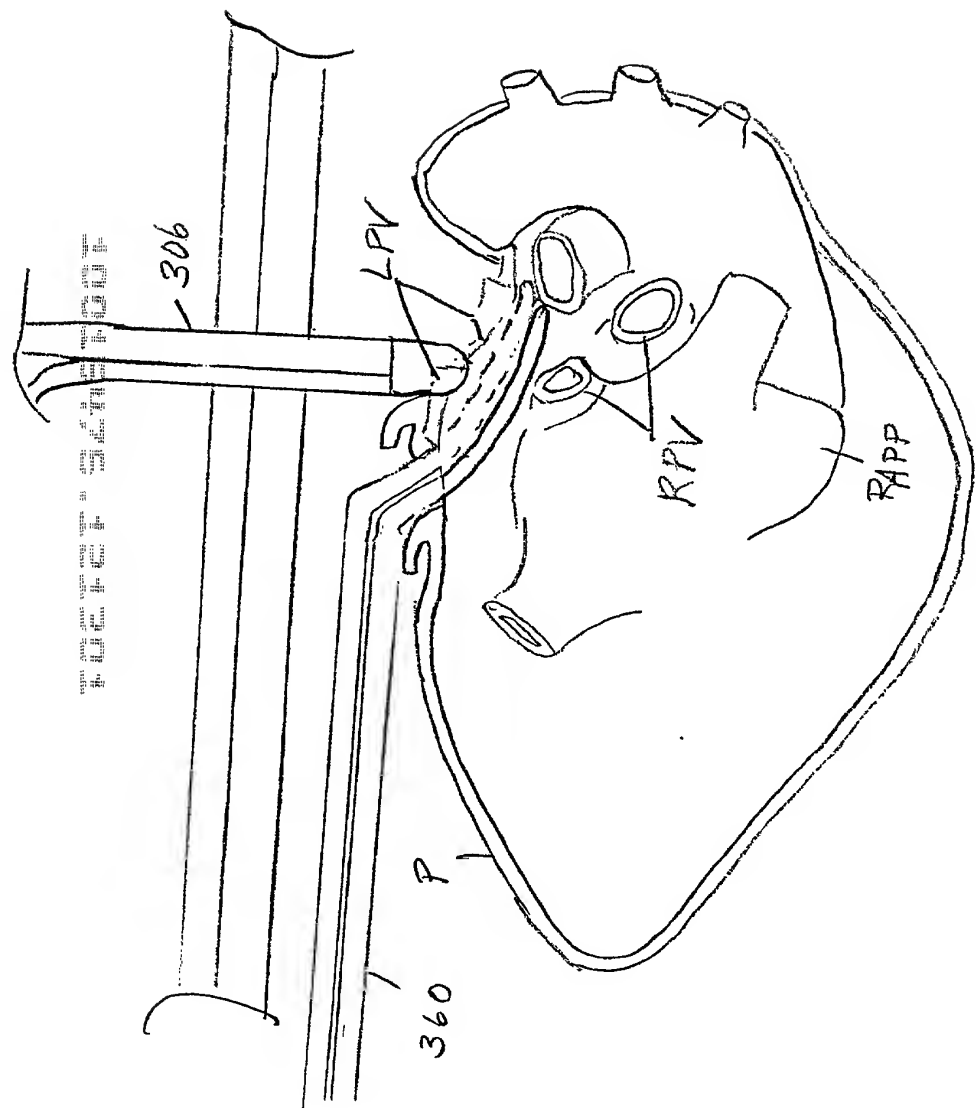


FIG. 90

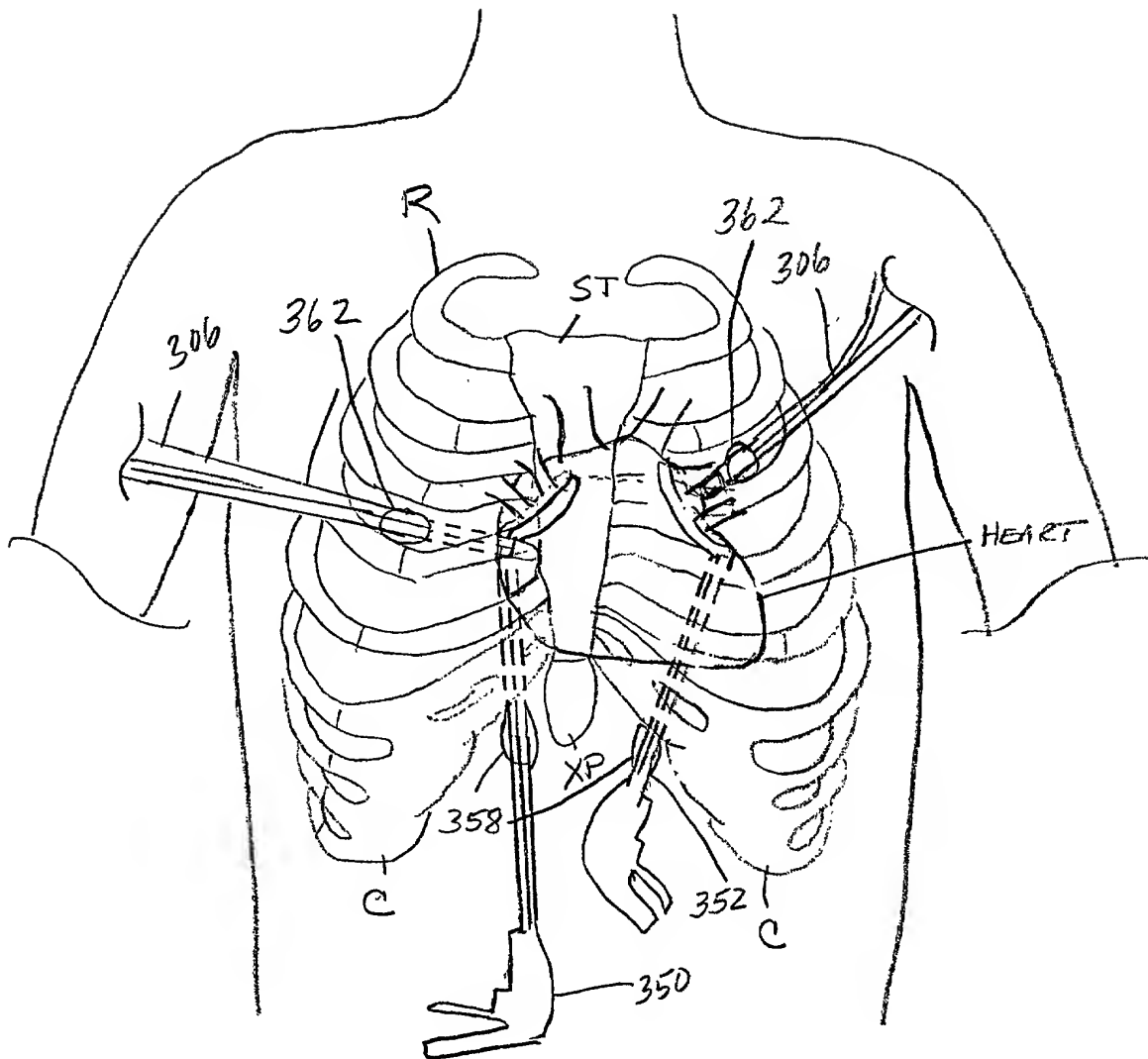


FIG 91

FIG. 92 is a schematic diagram of a patient in a supine position with a catheter inserted into the right pulmonary vein (RPV) and the left pulmonary vein (LPV). The catheter is connected to a monitoring system (364) which is supported by a stand (358). The patient's chest is shown with the rib cage and the heart (HEART) located between the lungs (C). The catheter is inserted into the RPV and the LPV through the chest wall (ST) and the rib cage (R). The catheter is connected to the monitoring system (364) which is supported by a stand (358). The patient's chest is shown with the rib cage and the heart (HEART) located between the lungs (C). The catheter is inserted into the RPV and the LPV through the chest wall (ST) and the rib cage (R). The catheter is connected to the monitoring system (364) which is supported by a stand (358).

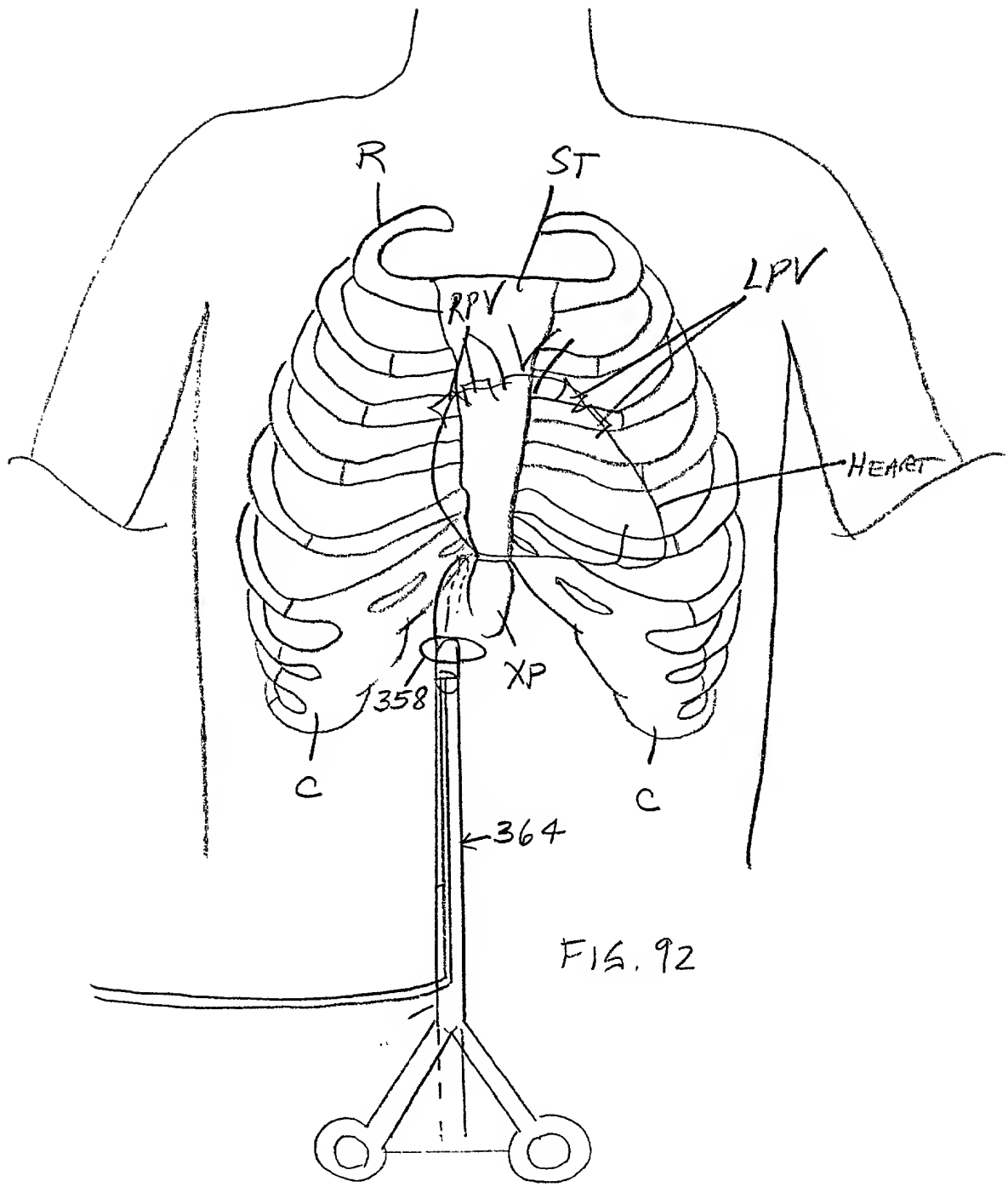


FIG. 92

FIG. 93 is a schematic diagram of a heart 340 with a catheter 364 inserted into the left pulmonary vein (LPV) 342. The catheter 364 is shown with a coiled distal end 366. The right pulmonary vein (RPV) and right atrial appendage (RAAP) are also labeled.

X

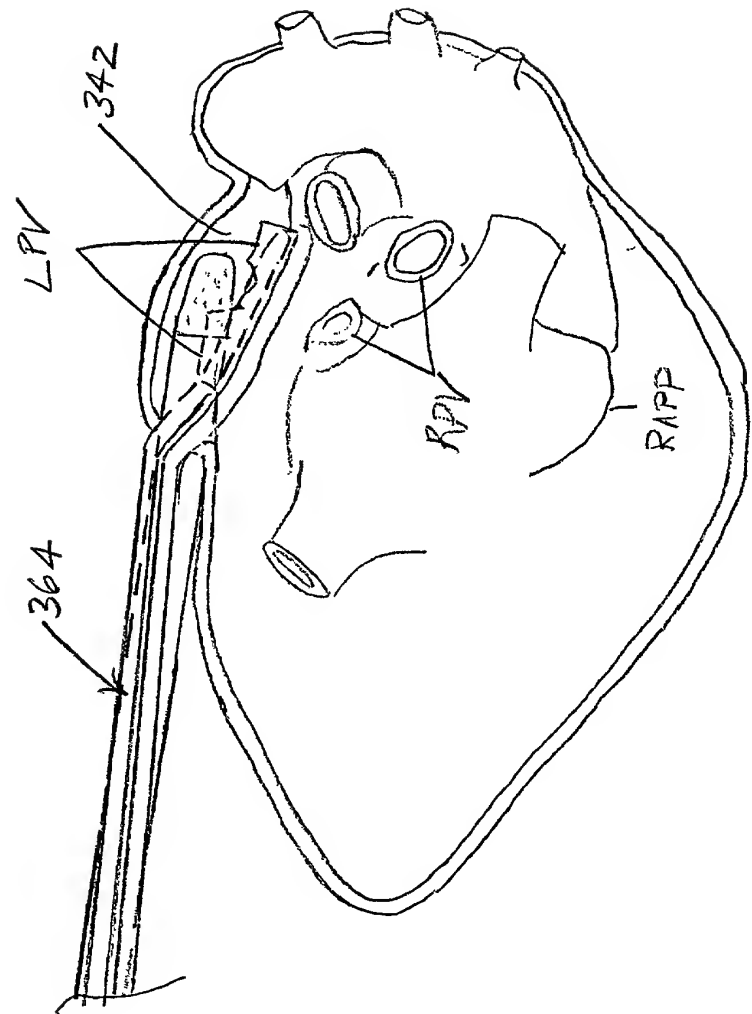


FIG 93

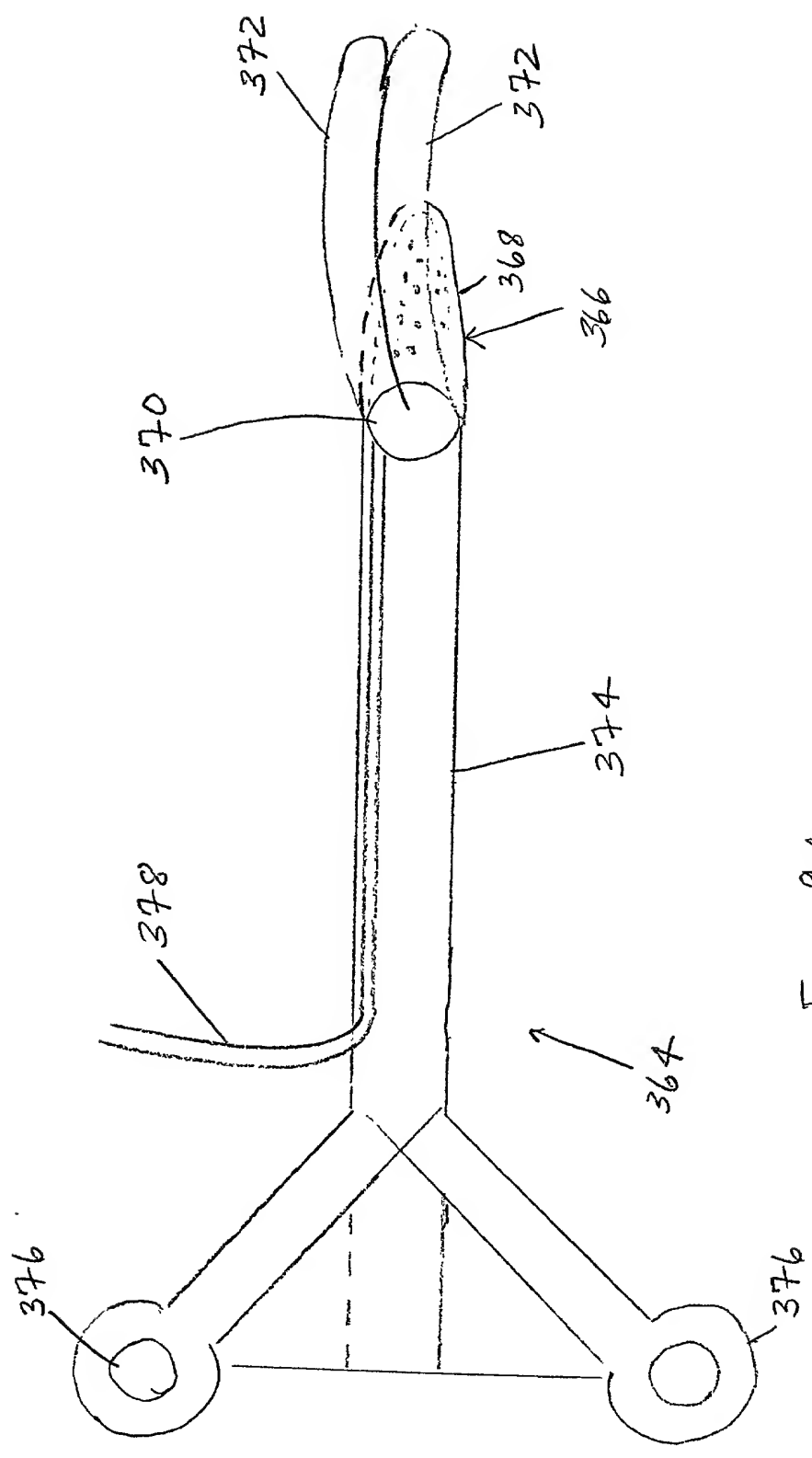


FIG. 94

FIG. 95 is a cross-sectional view of the device in use, showing the device inserted into the heart.

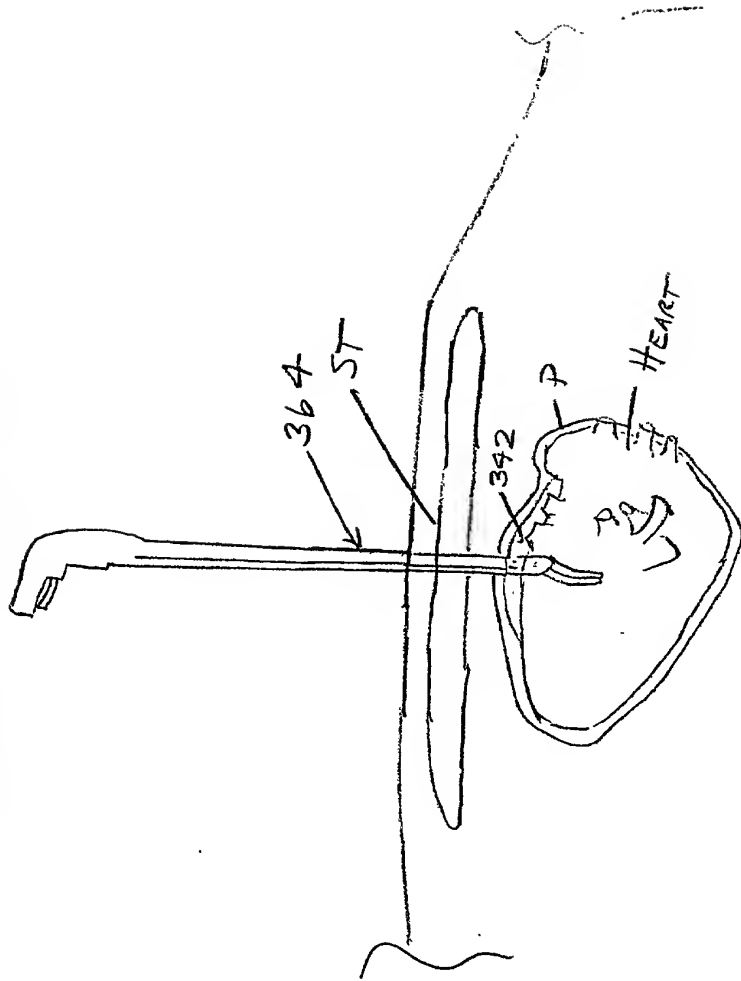


FIG. 95

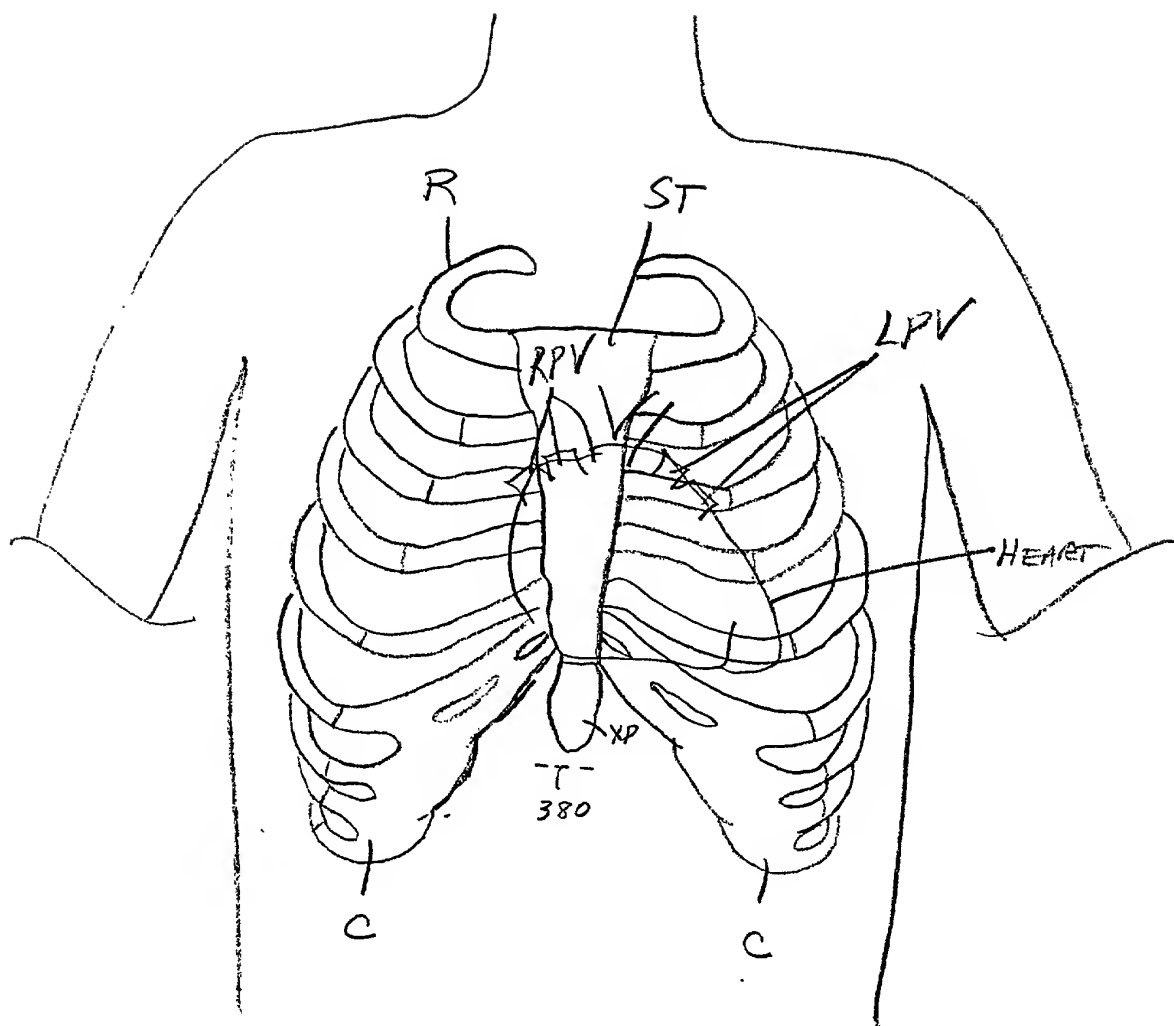


FIG. 96

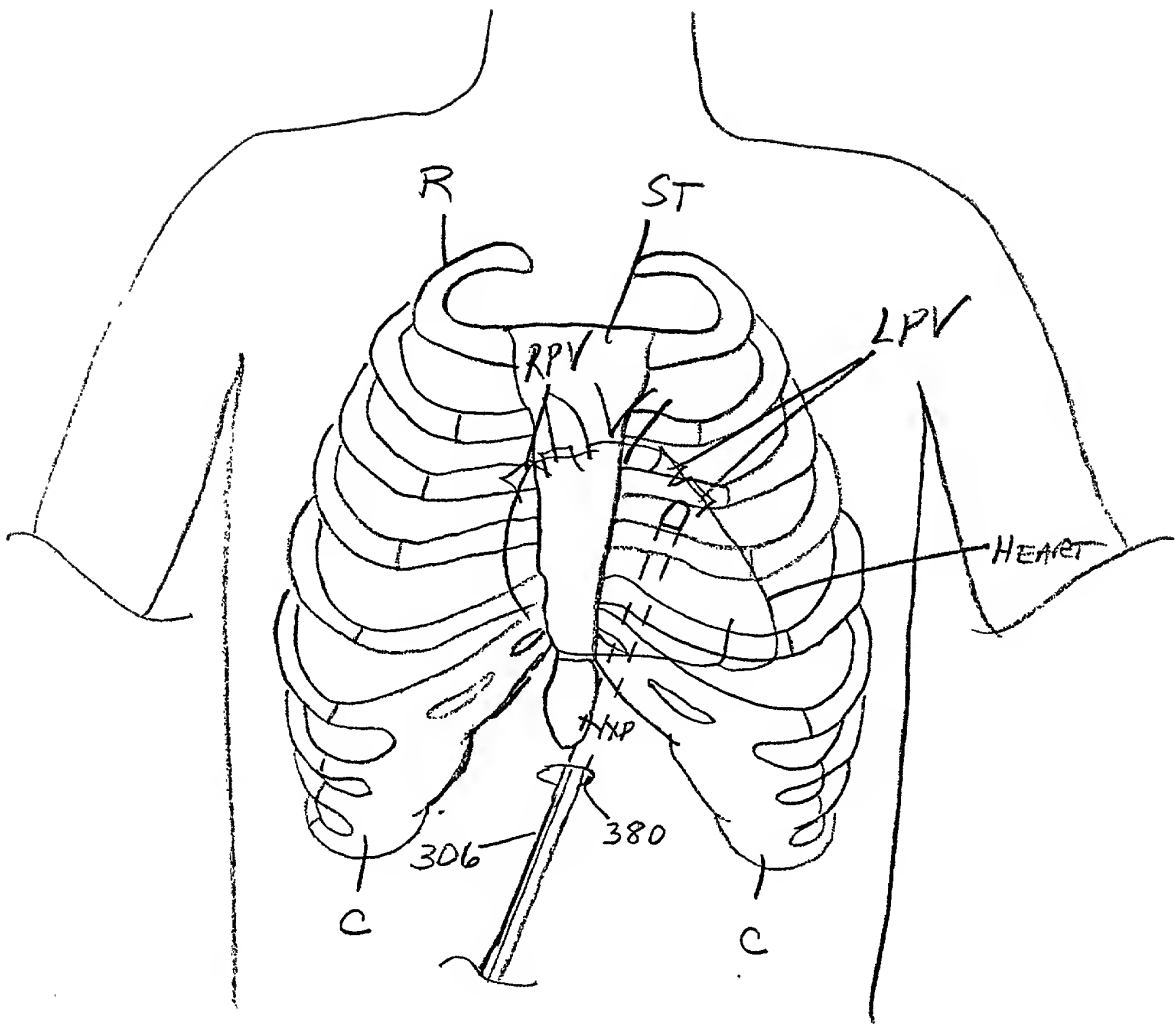


FIG. 97

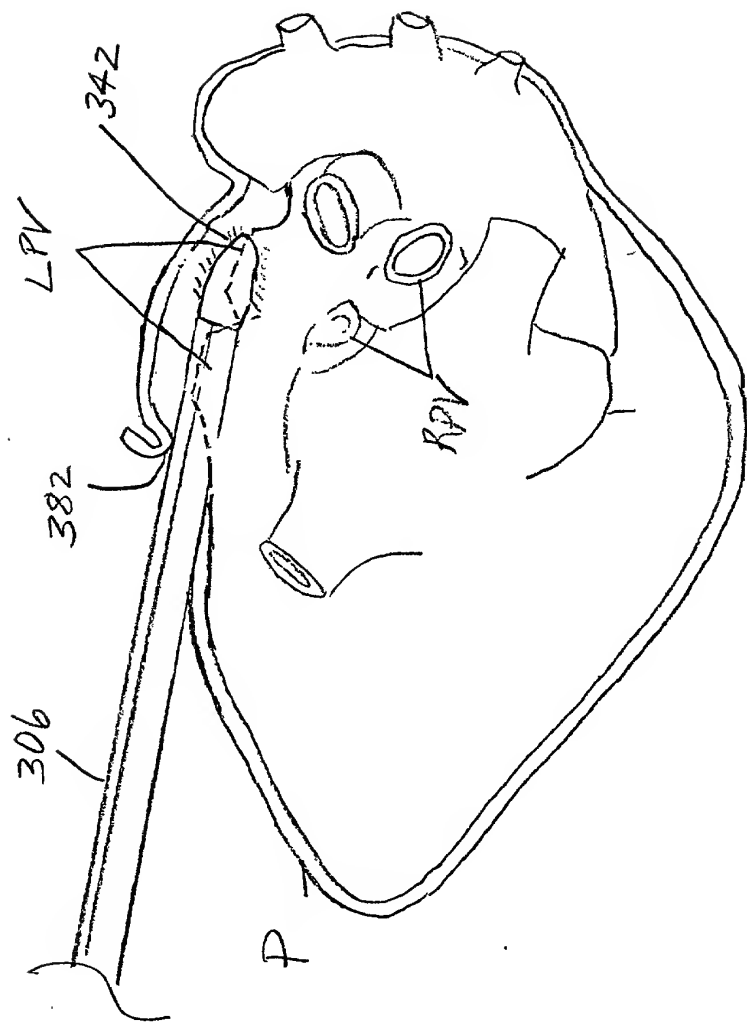


FIG. 98

X

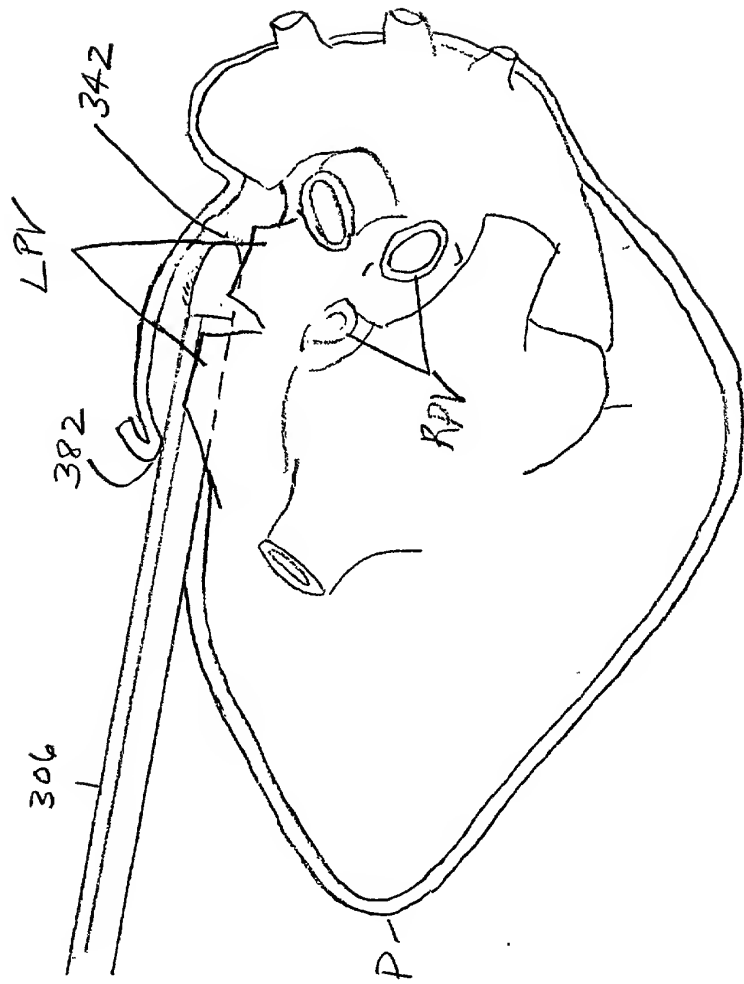


FIG. 99

X

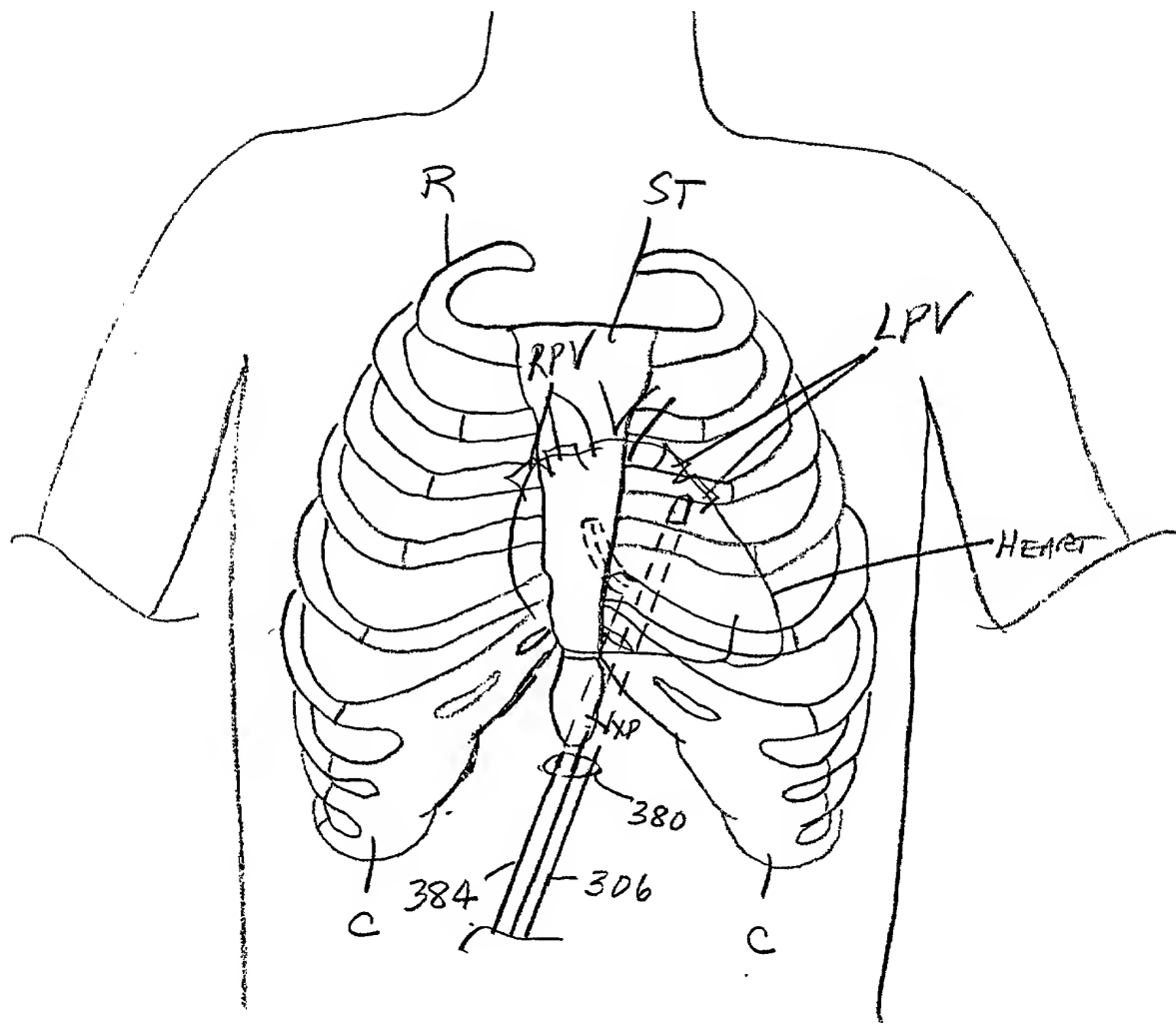


FIG. 100

FIG. 101 is a schematic diagram of a heart 100 with a catheter 306 inserted into the left ventricle (LV) through the left atrium (LA). The catheter 306 has a proximal end 384 and a distal end 382. The distal end 382 is positioned near the mitral valve 342. The right ventricle (RV) is also shown.

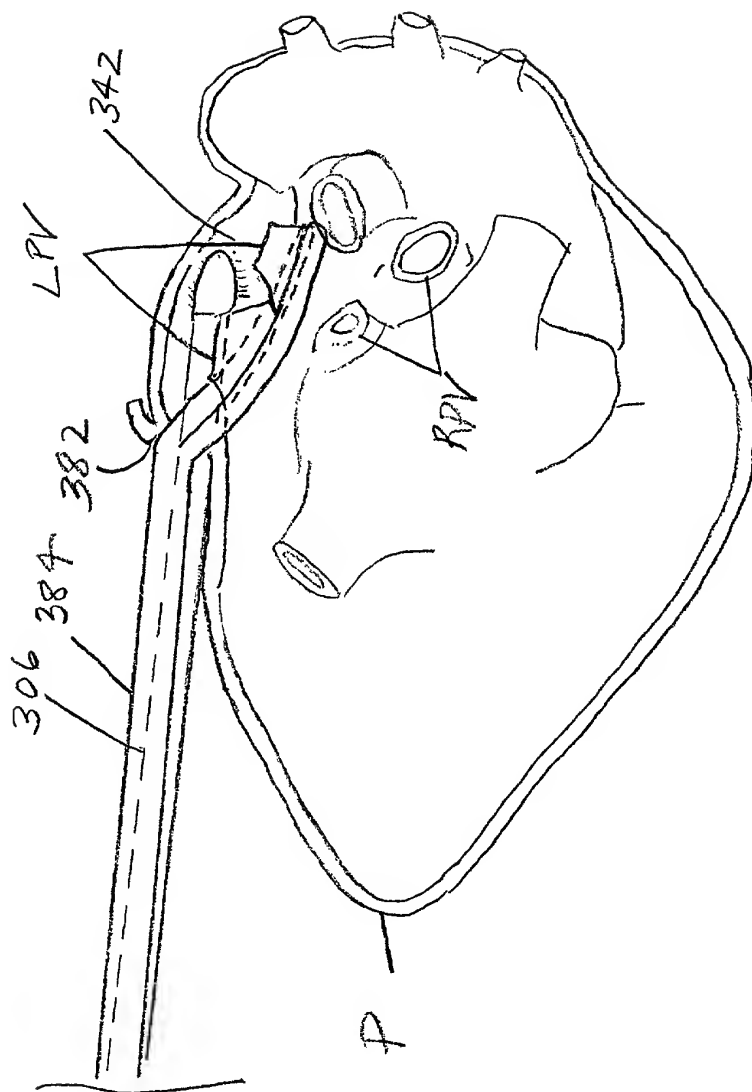


FIG. 101